Aug. 6, 1940. N. G. HORWITT 2,209,972

PICTURE FRAME

Filed Aug. 27, 1938 3 Sheets-Sheet 1

Fig. 1

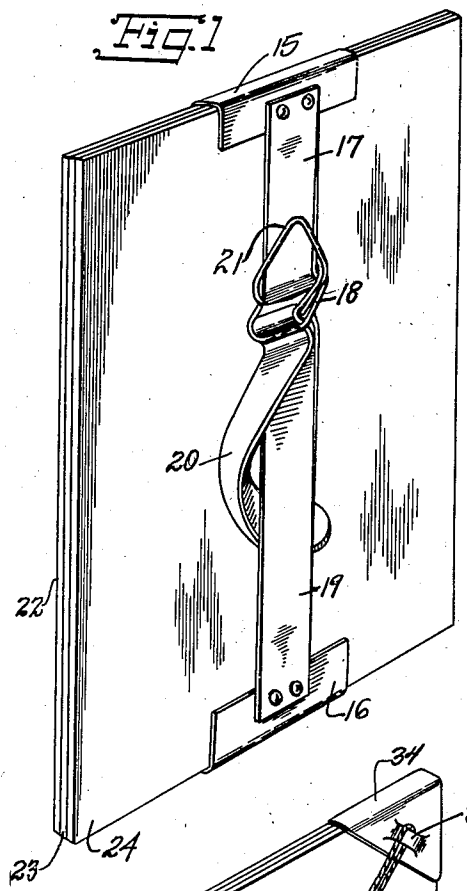


Fig. 2

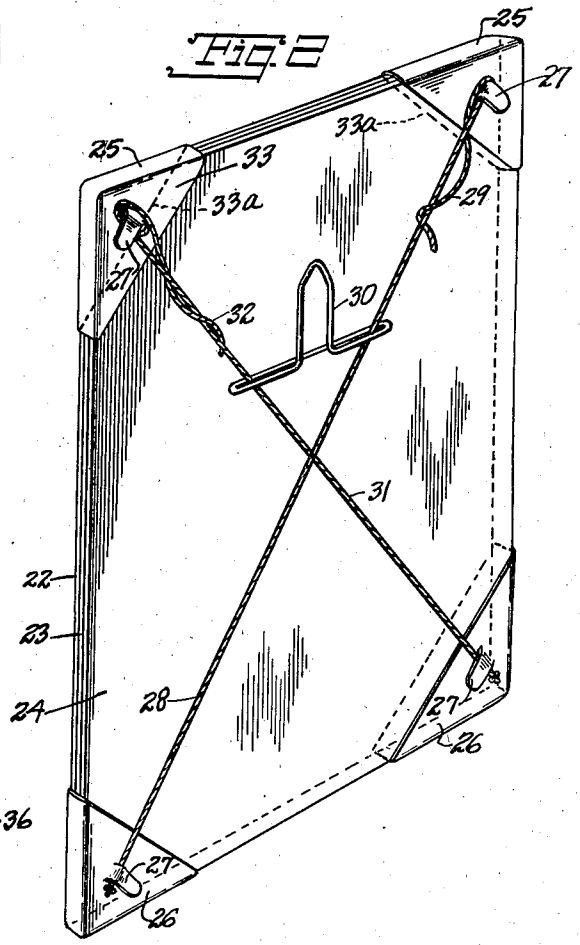
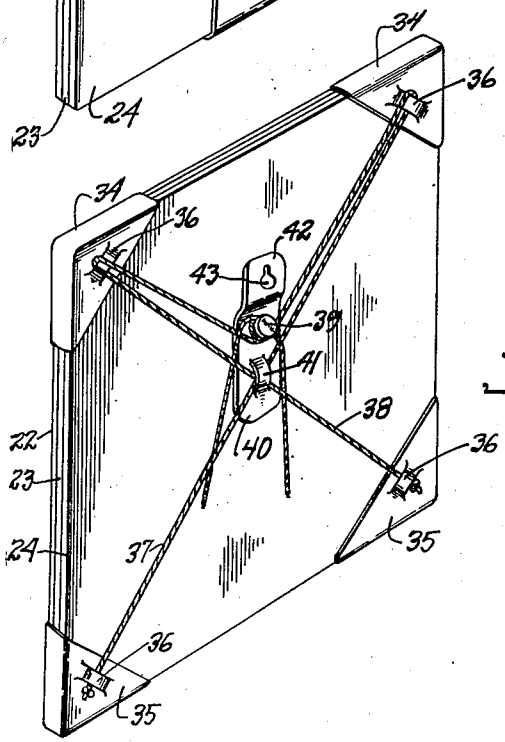


Fig. 3



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Fig. 4

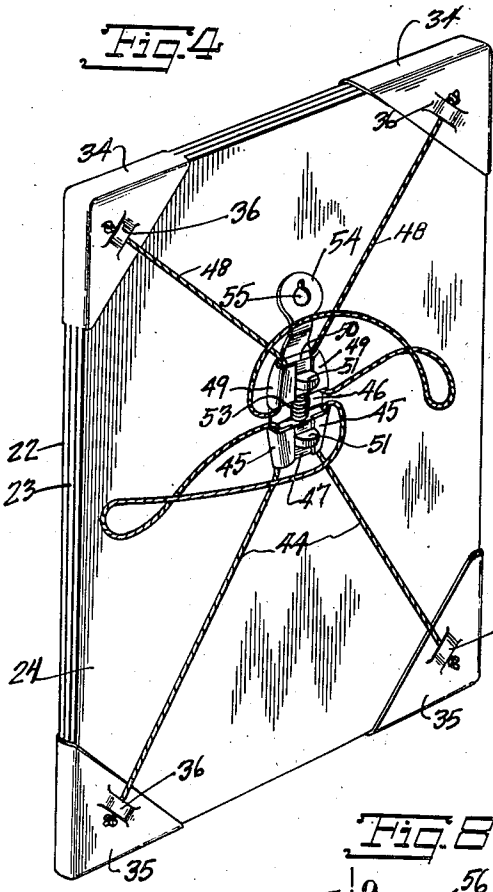


Fig. 5

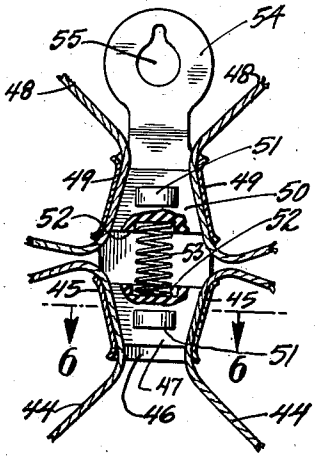


Fig. 6

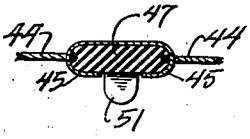


Fig. 7

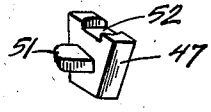


Fig. 8

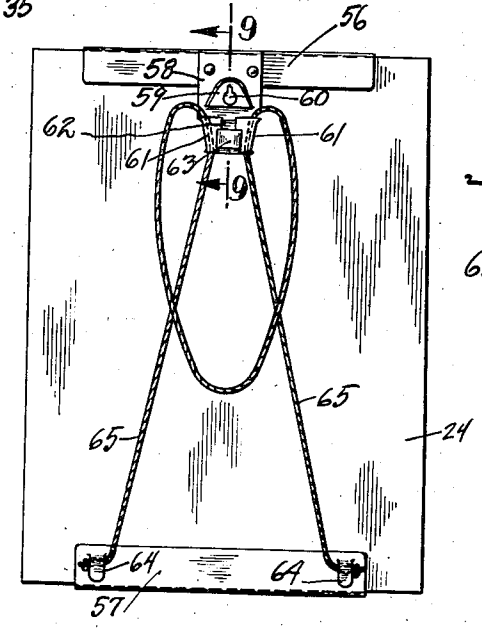


Fig. 9

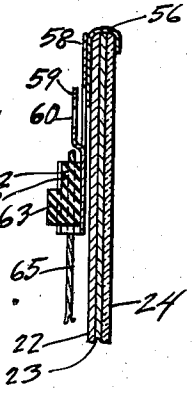
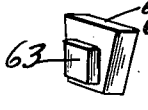


Fig. 10



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Fig. 11

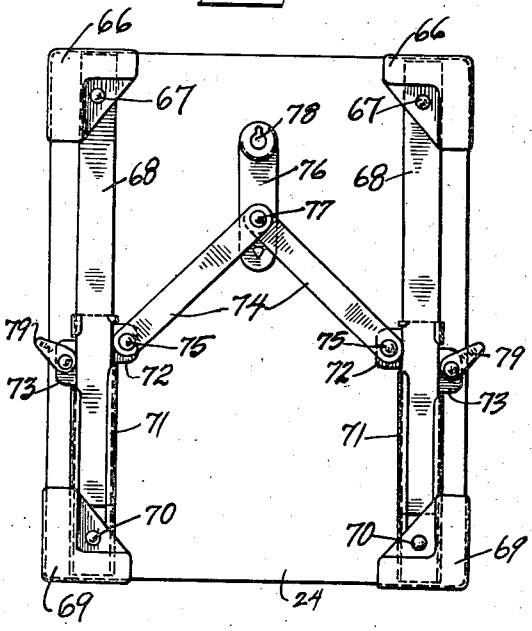


Fig. 12

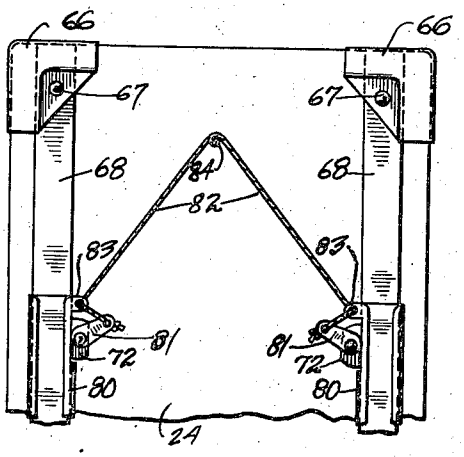


Fig. 14

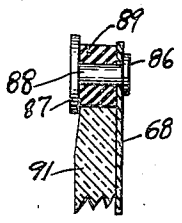
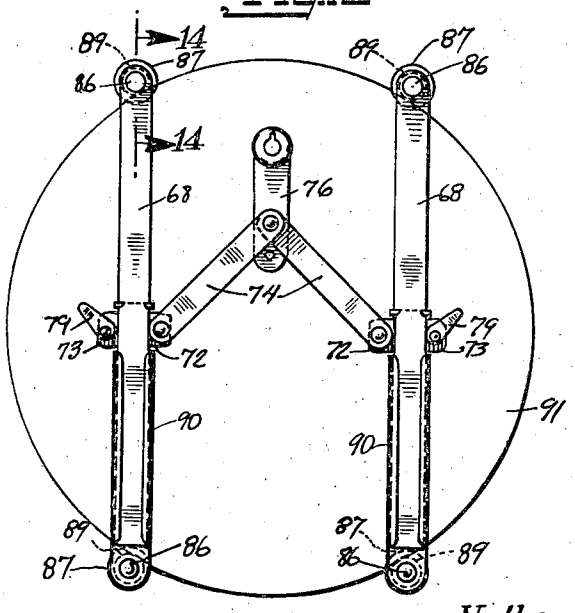


Fig. 13



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UNITED STATES PATENT OFFICE

2,209,972

PICTURE FRAME

Nathan George Horwitt, New York, N. Y.

Application August 27, 1938, Serial No. 227,052

7 Claims. (Cl. 40—152.1)

This invention relates to adjustable frames for supporting pictures, mirrors, plaques or other similar objects. The frames can be used to support objects of different sizes. With my construction it is not necessary to make a frame to order to suit pictures or mirrors, etc. of each particular size. In one form, the frame comprises pieces adapted to be set over the corners of the picture, said pieces being pulled together against the corners by adjustably set means. Said means in one form being made of cords or straps and in another form of stiff pieces slidably mounted on each other. Locking devices are provided to hold releasably the adjustably set means in the positions set. In another form top and bottom channel pieces are provided to set over the top and bottom edges of the picture. In another form, holding pieces are provided to support a circular or other curved form of picture or mirror. Said latter form is also adapted to hold objects of polygonal form having 3, 4 or more sides. Hanging means are provided in certain forms which induce the weight of the frame and the object held therein, to cause the frame to grip the picture tightly. Rubber plugs are employed in certain forms to wedge the cords attached to the picture holding pieces.

Other objects and advantages will become apparent upon further study of the description and drawings, in which:

Fig. 1 is a perspective rear elevation of the strap type of frame having top and bottom members, said frame being shown holding a picture.

Fig. 2 is a perspective rear elevation of one type of string frame having corner pieces, a picture being shown supported in said frame.

Fig. 3 is a perspective rear elevation of a second type of string frame having corner pieces, a picture being shown supported in said frame.

Fig. 4 is a perspective rear elevation of a third type of string frame having corner pieces, a picture being shown supported in said frame.

Fig. 5 is an enlarged rear elevation of the string clamp used in the frame of Fig. 4, the front flanges of the clamp being broken away as are likewise portions of the rubber plugs. The clamp is shown holding pieces of the strings.

Fig. 6 is a section taken through line 6—6 of Fig. 5.

Fig. 7 is a perspective view of one of the rubber plugs, shown by itself, which are used in the clamp of Fig. 5.

Fig. 8 is a rear elevation of a string frame having a top and a bottom piece for supporting the picture shown.

Fig. 9 is a partial section taken along the line 9—9 of Fig. 8.

Fig. 10 is an enlarged perspective view of the rubber plug used in the frame of Fig. 8, said plug being shown by itself.

Fig. 11 is a rear elevation of a corner piece frame in which the size of the frame is made adjustable by means of a plurality of links and sliding pieces, a picture being shown supported in said frame.

Fig. 12 is a partial rear elevation of a corner piece frame in which the size of the frame is made adjustable by means of a string and sliding pieces, a picture being shown supported in said frame.

Fig. 13 is a rear elevation of a frame similar to that shown in Fig. 11, except that the corner pieces are of a type suitable to support a round picture or mirror, and

Fig. 14 is a partial section, to an enlarged scale, taken along the line 14—14 of Fig. 13.

Referring to Fig. 1, there is seen a frame having an upper supporting channel piece 15 and a lower supporting channel piece 16. Attached to upper piece 15 is a length of strap 17, the lower end of strap 17 being made fast to a buckle 18. Attached to lower piece 16 is a length of strap 19 threaded through buckle 18, the loose end of strap 19 being shown at 20. Buckle 18 as shown is of the well known type consisting of two loops. Of course it is readily understood other types of adjustable buckles can be used. Attached to strap 17 is a hanging loop 21 which can be used to hang the frame from a nail or hook in a wall or to be supported by any other suitable means. Upper and lower pieces 15 and 16 are preferably of a construction shown for channel piece 56, Fig. 9. They are also similar to that shown for similar pieces in Patent No. 2,016,942, Oct. 8, 1935 to N. G. Horwitt et al. Such pieces are shown at 21 and 27, Figs. 1, 2, 3, 7, 10 and 11 or at 50, Fig. 12 of said patent.

In use, upper piece 15 is set over the top edge of glass 22, picture 23 and backing sheet 24, while lower piece 16 is mounted on their lower edge. Loose end 20 of strap 19 is then pulled upon causing said strap to be tightened in buckle 18, placing both straps 17 and 19 under tension and thereby causing upper and lower pieces 15 and 16, to grip tightly glass 22, picture 23 and backing 24.

In the frame illustrated in Fig. 2, there are two upper corner pieces 25 and two lower corner pieces 26. Each of said pieces is provided with a struck up tongue 27. The back of each of

said corner pieces has a triangular web such as shown at 33. A similar triangular web 33a is provided at the front of each of said pieces. A string 28, having a knot at its lower end, is caught under tongue 27 of left hand lower corner piece 26 and extends diagonally upward passing under tongue 27 of upper right hand corner piece 25, the loose end 29 of said string being looped downward. On its way upward, string 28 passes through the right hand side loop of hanger member 30. In a similar manner, string 31, having a knot at its lower end, is caught under tongue 27 of right hand lower piece 26 and extends diagonally upward passing under tongue 27 of upper left hand piece 25, the loose end 32 of said string being looped downward. On its way upward, string 31 passes through the left hand side loop of hanger member 30. The upstanding loop of hanger member 30 can be used to hang the frame from a nail in a wall or to support said frame by any other suitable means.

To use the frame of Fig. 2, right hand lower corner piece 26 is placed over the right hand lower corner of glass 22, picture 23 and backing sheet 24, while upper left hand corner piece 25 is placed over their upper left hand corners. String 31 is pulled tight about and wedged behind tongue 27 of upper left hand corner piece 25. In a similar manner, lower left hand corner piece 26 is placed over the lower left hand corner of glass 22, picture 23 and backing sheet 24, while upper right hand corner piece 25 is placed over their upper right hand corner. String 28 is pulled tight about and wedged behind tongue 27 of upper right hand corner piece 25. Both strings 28 and 31 are passed through their respective loops of hanger member 30 as explained before. When the frame and its contents are supported, say from a nail in the wall, said nail being inserted through the upstanding loop of hanger member 30, the side loops of said member slide up on strings 28 and 31 increasing their tautness.

The frame of Fig. 3 has upper corner pieces 34 and lower corner pieces 35 said corner pieces being similar to the corner pieces of Fig. 2 except that instead of having tongues 27, they have loops 36 struck up from them. String 37 is inserted through loop 36 of lower left hand corner piece 35, a knot on said string keeping it from being pulled through. The upper end of string 37 is passed through the loop 36 of upper right hand corner piece 34, its free end being brought down and tied around knob 39 of hanger member 40. On its way up from lower left hand piece 35 to upper right hand piece 34, string 37 passes through loop 41 on hanger member 40. In a similar manner, string 38, having a knot at its lower end, is passed through loop 36 of lower right hand corner piece 35 and extends diagonally upward, passing through loop 41 on its way to loop 36 through which it is passed, its free end being brought down and tied around knob 39. From the above description and the explanation of the operation of the frame of Fig. 2 it is evident how the frame of Fig. 3 is used. Tab 42 on hanger member 40 has a hole 43 in it which can be used to hang the frame from a nail in a wall or to support said frame by any other suitable means. The tautness of strings 37 and 38 is increased when the frame is hung by hanger member 40.

The frame of Figs. 4, 5, 6 and 7 has corner pieces 34 and 35 just as in the frame of Fig. 3, the difference from said latter frame occurring in the strings and the means for fastening them. A lower string 44 is provided having a knot at each end, the ends of the string passing through loops 36 on the bottom corner pieces 35. An intermediate portion of string 44 is threaded through lower flanges 45 of hanger member 46. In passing through, string 44 passes between flanges 45 and the inclined sides of tapered rubber plug 47. In a similar manner upper string 48 having a knot at each end, passes through loops 36 on upper corner pieces 34. An intermediate portion of string 48 is threaded through upper flanges 49 of hanger member 46. In passing through, string 48 passes between flanges 49 and the inclined sides of tapered rubber plug 50. Plugs 47 and 50 are each provided with a thumb piece 51. A notch 52 is formed in the upper end of plug 47 and in the lower edge of plug 50. Between plugs 47 and 50, and extending into notches 52 is a compression spring 53. Hanger member 46 is provided with a tab 54 having a hole 55 in it enabling the frame to be hung from a nail in a wall or to be supported by any other suitable means.

In using the frame of Figs. 4–7, the corner pieces 34 and 35 are placed over the corners of glass 22, picture 23 and backing sheet 24. Thumb piece 51 of plug 47 is pushed up forcing plug 47 up against the pressure of spring 53. This leaves added space between the tapered sides of plug 47 and lower flanges 45, so that string 44 can readily be pulled up, drawing corner pieces 35 tight against the objects held in the frame. When thumb piece 51 is released, spring 53 pushes plug 47 down gripping string 44. Any tendency of string 44 to pull down only causes plug 47 to grip tighter. In a similar manner thumb piece 51 of plug 50 is pushed down against the pressure of spring 53. This leaves added space between the tapered sides of plug 50 and upper flanges 49 so that string 48 can readily be pulled down drawing corner pieces 34 tight against the objects held in the frame. When thumb piece 51 of plug 50 is released, string 48 is tightly gripped as explained above for string 44.

Figs. 8, 9 and 10 show a frame having an upper channel piece 56 and a lower channel piece 57, said pieces being similar in their gripping action on glass 22, picture 23 and backing sheet 24, held in the frame, to the channel pieces 15 and 16 of Fig. 1. Piece 56 has a member 58 fixedly attached to it. A tongue 59 is struck up from member 59. Hole 60 is provided in member 58 to enable the frame to be hung from a nail in a wall or to be supported by any other suitable means. Member 58 has flanges 61 which are similar to flanges 45 of Fig. 4. A tapered rubber plug 62, having a thumb piece 63, is provided to insert between flanges 61. Lower channel piece 57 is provided with struck up tongues 64. Knots are provided on the ends of string 65, said string near its ends being slipped under tongues 64. String 65 is led inside of flanges 61, and when pulled up as tightly as possible is wedged therein by pushing down plug 62 in said flanges. Any tendency of string 65 to loosen itself only causes plug 62 to grip tighter.

Upper corner pieces 66, in the modification shown in Fig. 11, are similar to corner pieces 34 of Fig. 3, except that the former are pivoted by means of pins 67 to bars 68. Similarly lower corner pieces 69 are pivoted by means of pins 70 to channel guides 71. Bars 68 are slidably mounted in channel guides 71. Projecting from one side of the web of each guide 71 is an ear

72. Projecting from the opposite side of each of said webs is another ear 73. A link 74 is pivotally mounted by means of a pin 75 on each of ears 72. The upper ends of links 74 are pivotally connected to each other and to hanger 76 by means of pin 77. Hole 78 is provided in hanger 76 so that the frame may be hung from a nail or hook in a wall or be supported by any other suitable means. Pivotally mounted on each ear 73 is an eccentric latch 79 for locking each bar 68 in various up and down positions on its guide 71 so that corner pieces 66 and 69 may be set to suit the height of the picture to be supported by the frame. The lateral adjustment of said corner pieces is effected by varying the angle between links 74. When the frame is hung from hanger 76, said angle tends to become less, causing a constant lateral pressure of the corner pieces against a picture held in the frame.

The frame shown in Fig. 12 is a modification of that shown in Fig. 11. The corner pieces 66 and 69, the latter not being shown, are the same as in Fig. 11. Bars 68 are also the same. Channel guides 80 each have an ear 72. Pivotally mounted on each ear 72 is an eccentric latch 81 for locking each bar 68 in various up and down positions on its guide 80 so that corner pieces 66 and 69 may be set to suit the height of the picture to be supported by the frame. String 82, which has a knot at each end, passes through the openings provided at the outer ends of latches 81 and the openings provided in ears 83 at the upper ends of guides 80. In the drawings, string 82 is shown as passing over a nail 84 from which the frame is hung. The weight of the frame and the object supported thereby causes a tension in string 82, the horizontal component of said tension causing a constant lateral pressure of the corner pieces against the object held in the frame.

The frame of Figs. 13 and 14 is especially adapted for supporting a round object such as a circular or elliptical mirror or picture. Said frame is the same as the frame of Fig. 11 except for the corner pieces and the bottom of the guides. Instead of corner pieces 66, each bar 68 has mounted on its upper end a pin 88 having a small head 86 at its rear and a large head or flange 87 at its front. Mounted on pin 88 is a sleeve 89 preferably of rubber. Flange 87 is of larger diameter than the outside diameter of sleeve 89. On the bottom of each guide 90 is mounted a pin 88 having a head 86, flange 87 and sleeve 89. The mirror 91 engages sleeves 89 on all pins 88 and is held back from falling forward out of the frame by flanges 87. The frame is adjusted as to height by the sliding of bars 68 in guides 90, the bars being locked in position by eccentric latches 79. The pull of hanger 76 on the upper ends of links 74 causes sleeves 89 to press laterally towards each other.

In the claims, the frame is specified as supporting a picture, but I wish it to be understood that other objects such as the glass cover for the picture, mirrors and plaques are meant as well.

In Fig. 1 a strap is used, and in Figs. 2, 3, 4 and 8 strings are used for holding the picture gripping pieces against the edge of the picture. While a strap is preferable in Fig. 1, strings could be used instead. Likewise, while strings are preferable in Figs. 2, 3, 4 and 8, straps could be used. The term "flexible strip" is generic to both a strap and a string and it is intended to have this meaning in the claims.

I claim:

1. A frame for supporting a picture comprising pieces engaging the edge of the picture, a flexible strip in the form of a loop connecting said pieces, means having spaced guides, the space between said guides tapering in a direction parallel to the plane of the picture, each leg of the loop passing along a guide, and a resilient plug having a taper complementary to the taper of the space between the guides, said plug being removably inserted in said space and between the legs of the loop, said plug binding the legs in the guides against tension induced in the strip, said tension being induced and the frame tightened on the picture by pulling the strip through the guides.

2. A frame for supporting a picture comprising an upper channel piece and a lower channel piece formed to set over respectively the upper and lower edges of the picture, a flexible strip in the form of a loop connecting said pieces, means fixed to the upper channel piece having spaced guide channels, the space between the guide channels tapering in a direction parallel to the plane of the picture with the small end at the bottom, each leg of the loop passing through a guide channel, a resilient plug having a taper complementary to the taper of the space between the guide channels, said plug being removably inserted in said space and between the legs of the loop, said plug binding the legs in the guide channels against the tension induced in the strip by pulling thereon to tighten the frame on the picture, and hanging means fixed to the upper channel piece for supporting the frame.

3. A frame for supporting a picture comprising an upper piece and a lower piece formed to engage respectively the upper and lower edges of the picture, a flexible strip in the form of a loop connecting said pieces, means fixed to one of said pieces having spaced guides, the space between the guides tapering in a direction substantially parallel to the plane of the picture with the small end toward the other of said pieces, each leg of the loop passing along one of said guides, a resilient plug having a taper complementary to the taper of the space between the guides, said plug being removably inserted in said space and between the legs of the loop, the pulling of the legs of the strip through the guides inducing tension in the strip and causing said pieces to press against the edges of the picture, said plug binding the legs in the guides against the tension thus induced in the strip, and means fixed to one of said pieces for supporting the frame.

4. A frame for supporting a picture comprising an upper piece and a lower piece formed to engage respectively the upper and lower edges of the picture, flexible strip means attached at one portion to the lower piece, a clamp for releasably locking the opposite portion of said strip means in the position set, said clamp being fixedly mounted on the upper piece, said strip means being slidable in the clamp, the pulling of said opposite portion through the clamp inducing tension in the strip means, causing said pieces to press against the edge of the picture, said clamp enabling the strip means to be locked in the position set by said pulling.

5. A frame for supporting a picture comprising an upper piece and a lower piece formed to engage respectively the upper and lower edges

of the picture, said lower piece being formed to extend a substantial distance transversely at the bottom of the picture, a flexible strip in the form of a loop attached at one end to the lower piece at widely spaced apart locations, a clamp for releasably locking the loop in the position set, said clamp being fixedly mounted on the upper piece to come in the middle of the picture transversely when the upper piece is mounted thereon, the other end of the loop being slidable in the clamp, the pulling of the upper end of the loop through the clamp inducing tension in the loop, causing said pieces to press against the edge of the picture, said clamp enabling the loop to be locked in the position set by said pulling.

6. A frame for supporting a picture as claimed in claim 4 in which the clamp is fixedly mounted on the upper piece in such position as to come in the middle of the picture transversely when the upper piece is mounted thereon.

7. A frame for supporting a picture as claimed in claim 4 having hanging means fixedly mounted on the upper piece in such position as to come in the middle of the picture transversely when the upper piece is mounted thereon.

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