

Dec. 26, 1967

C. F. OVERTON ET AL

3,360,227

EASEL

Filed Oct. 21, 1965

2 Sheets-Sheet 1

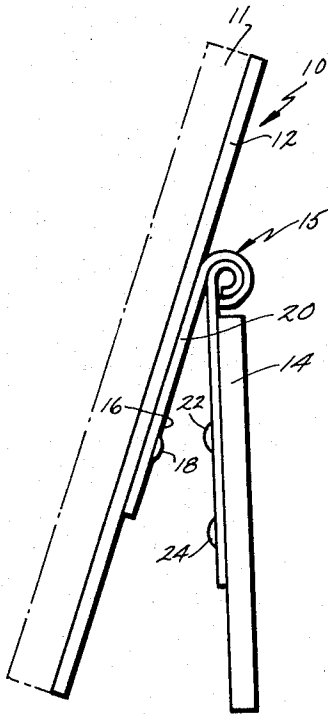


FIG 1

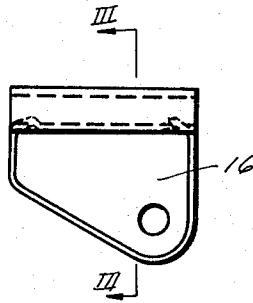


FIG 2

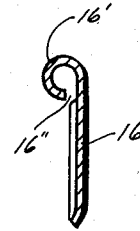


FIG 3

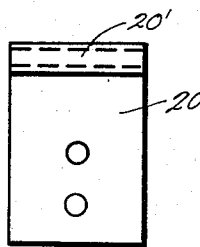


FIG 4

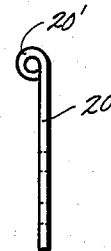


FIG 5

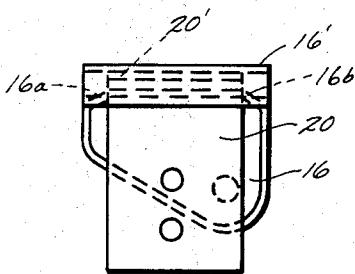


FIG 6

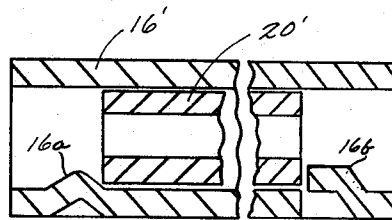


FIG 7

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2 Sheets-Sheet 2

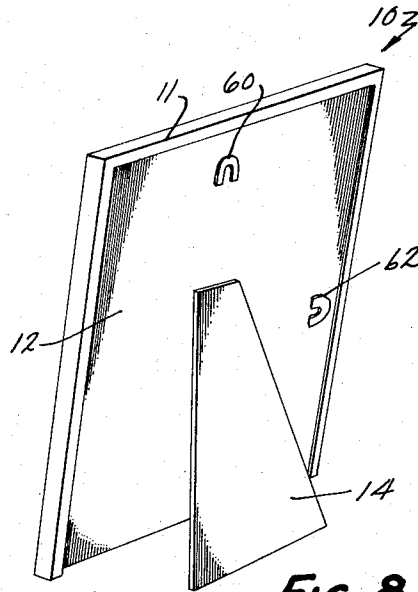


Fig. 8

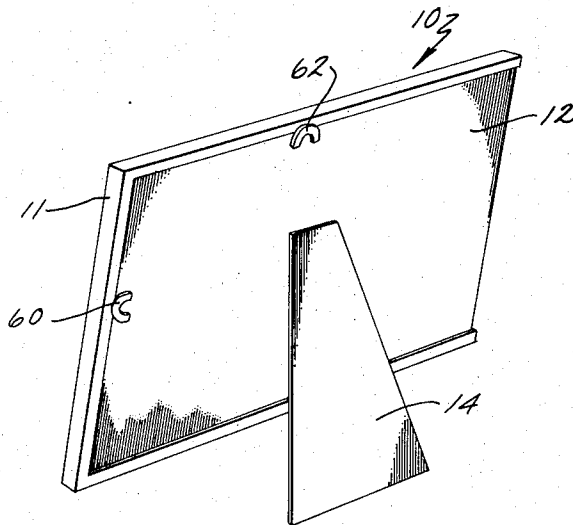


Fig. 9.

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Filed Oct. 21, 1965, Ser. No. 500,009
1 Claim. (Cl. 248—463)

ABSTRACT OF THE DISCLOSURE

A versatile back plate and prop connection joint for an easel back including a pair of links with axially slidably interfitting cylindrical portions retained in axially interconnected stable relationship by a pair of stops spaced from each other sufficiently to prevent excess axial movement between the parts, and at least one of the stops being temporarily resiliently deformable to allow a snapped-in connection between the parts for consumer assembly or disassembly.

This invention relates to an easel back for a picture frame, and more particularly to a special joint connection between the back plate and the prop of an easel back.

This invention is an improvement of the construction shown and claimed in prior Patent No. 3,165,290, assigned to the assignee herein, and employing many of the concepts of this previous construction.

As noted in the above patent, most presently known easel backs are characterized by bulkiness of the prop connection, little versatility, the presence of tiny parts difficult to use and expensive to manufacture, unstable bendable wire supports or delicate tiny hinges, and/or undesirable paperboard joints, complex frame backs, lacking design simplicity or aesthetic appeal. This is particularly so if the customary two-way prop is shaped to enable its use in both horizontal or vertical positioning of the frame.

Additional complications are involved if the prop is removable for alternate use of the frame as a wall hung structure of a table propped structure.

The prior structure in the above patent overcomes many of these disadvantages, provides a pivotal connection for 90° rotation, and effects a removable connection. However, it has been found that some customers are puzzled as to how to connect the elements. Also, there is some tendency for the prop connection to apply some stress tending to pull the swiveling back plate link away from the back plate. The inventors herein therefore devised a construction employing many of the principles of the prior structure, but obtaining the controlled pivot connection with a transverse axial interfit rather than the vertical interfit of the prior device.

It is an object of this invention to provide an improved swivel type easel back and connection assembly having complete versatility of positioning, horizontally or vertically, using the prop, or horizontally or vertically without the prop, structural simplicity, inexpensiveness, lack of small delicate hinge parts, simple easy removability of the prop from the back plate, with only two simple link elements, and also having the additional advantages of improved stability and longer useful life of the connection because of a construction causing the applied leverage between the components to be directed so as to force the swivel snug against the back face of the back plate.

Another object of this invention is to provide an easel back and prop assembly having a unique axial sliding connect and disconnect joint, providing a firm, secure, controlled connection when joined for use of the structure as a table prop unit and also for simple prop removal to enable use of the structure as a wall hung unit. The controlled swivel sliding connection is retained in axial

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relationship by special retention stop means formed integrally into the connecting link element.

These and other objects of this invention will become apparent upon studying the following specification in conjunction with the drawings in which:

FIG. 1 is a side elevational view of an easel back on a frame, showing the novel joint connection between the prop and the back plate, and shown with the prop extended;

FIG. 2 is an elevational view of the plate type link pivotally mounted to the back face of the back plate;

FIG. 3 is a cross sectional view of the link in FIG. 2, taken on plane III—III of FIG. 2;

FIG. 4 is an elevational view of the plate type link attached to the prop in FIG. 1;

FIG. 5 is an end elevational view of the link in FIG. 4; FIG. 6 is an elevational view of the interconnected link elements;

FIG. 7 is an enlarged sectional fragmentary view of the interconnected links in FIG. 6;

FIG. 8 is a perspective view of the rear of the assembly shown in vertical position; and

FIG. 9 is a perspective view of the rear of the assembly shown in horizontal position.

Referring now specifically to the drawings, the complete picture frame assembly 10 includes a suitable retention frame 11 of conventional type, adapted to retain a photograph or other picture or the like (not shown) on its front face, and an easel back including a back plate 12 of covered cardboard or the like, to retain the picture in the frame and serve as a mounting surface for a connection to prop 14.

The special connection linkage subassembly 15 between the prop and back plate is formed of a first, mostly flat, plate type link 16 pivotally attached to the back of back plate 12 by a swivel connector such as rivet 18, and a second mostly flat plate type link 20 affixed to the inside front face of prop 14 by a pair of fasteners such as rivets 22 and 24. Preferably, the peripheral edge of plate link 16 is rolled to form a strengthening bead. As the device is illustrated in FIG. 1, the size relationship of these plates to the respective prop and frame is quite large for clarity. However, as will be readily understood, these plates may actually be holding a small fraction of the size of the other components. Preferably, both links are formed of sheet metal construction, but could conceivably be formed of other suitable structural materials such as polymeric plastics or the like.

The upper end portion of link 16 is deformed by being curled back upon itself to form a cylindrical, laterally elongated socket 16'. The deformed edge is terminated short of the main planar flat portion of the plate to form an elongated slot opening 16'' along the underside of the socket. This slot is provided with a breadth sufficient to allow a controlled pivotal relationship between this link and link 20 in a manner to be described.

Link 20 also has its upper end portion curled back upon itself to form a cylindrical, inner pin type element 20' having an outside diameter about the same as, but slightly smaller than, the inside diameter of socket 16', to form an axial interfit therewith. The length of cylindrical portion 20' of link 20 is smaller than that of socket 16' to fit completely within the socket as shown in FIG. 6, and leave overlap of the socket ends for stop means.

Stop and retention means are formed into socket 16' to limit the sliding interfit, and to retain the elements in assembled condition when interfitted, while allowing disassembly with slight force. More specifically, one end of socket 16' is deformed by depressing a dimple into the outer periphery to form inwardly projecting stop means 16a. The other end is deformed by partially severing and

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bending a blunt end tab 16b into socket 16'. Thus, insertion of element 20' into socket 16' with sliding of the flat planar portion of element 20 through slot 16'' is accompanied by temporary resilient deformation of stop 16b (or 16a). Element 20' is limited in its insertion by abutment with stop 16a (or 16b), at which time it passes beyond the deformable stop to be secured in position. During actual assembly, the completion of this connection is signaled by a sharp "click." Thus, the components can be sold either assembled or disassembled since assembly by the purchaser is simple, easily done with only slight force, and stable. When interconnected, the prop can be employed with the frame assembly in its so-called horizontal or vertical alignment positions, i.e., at 90° variations, merely by swiveling the entire prop and connection about pivot 18. The proper angle of the prop is regulated by the breadth of slot 16'' which is somewhat broader than the thickness of plate 20. The plate abuts with the curled edge of link 16 (FIG. 1).

Further, if the unit is to be employed as a wall hung assembly, the elements are merely disconnected by axially disengaging them with slight force to temporarily deform retaining stop 16b. Thus, either element 60 or 62 can be suspended on a wall hanger in either of two different positions at 90° relation to each other.

Importantly, when the construction is used as a propped assembly as shown in FIG. 1, the leverage of the load applied is directed against the upper portion of plate 16 toward the back face of back plate 12, maintaining the assembly in a stable condition.

Various additional advantages of this construction to those specifically noted may also be realized by those familiar with this field, upon studying the foregoing disclosure and the concept presented therein. It is also conceivable that minor details of the construction could be modified without departing from the unique concept. Therefore, the invention is intended to be limited only by

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the scope of the appended claim and the reasonably equivalent structures to those defined therein.

We claim:

An easel back including a back plate and a prop; a connection assembly between said back plate and prop including a first link affixed to said back plate, and a second link affixed to said prop; said first link being generally flat but curled on its upper end portion into a cylindrical socket having a slot along its underside; said second link being generally flat but curled on its upper end portion into a cylindrical element having an outer diameter about the same as the inner diameter of said socket; said element being axially slidably fitted into said socket, with the flat portion of said second link protruding down through said slot; stop means on both ends of said socket to control the axial relationship of said socket and element, and at least one of said stop means being temporarily resiliently deformable with insertion force of said element into said socket, to allow sliding connection and disconnection of said socket and element; said stop means being spaced from each other slightly more than the length of said cylindrical element on said second link; and said slot having a greater breadth than the thickness of said protruding second link portion to allow limited pivotal movement between said links within an acute angle, to form a prop support connection.

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JOHN PETO, *Primary Examiner.*