F. L. ATKINSON AND N. SCLAR.

KNOCKDOWN PICTURE FRAME.

APPLICATION FILED APR. 16, 1919.

1,313,778.

Patented Aug. 19, 1919.

Fig. 1.

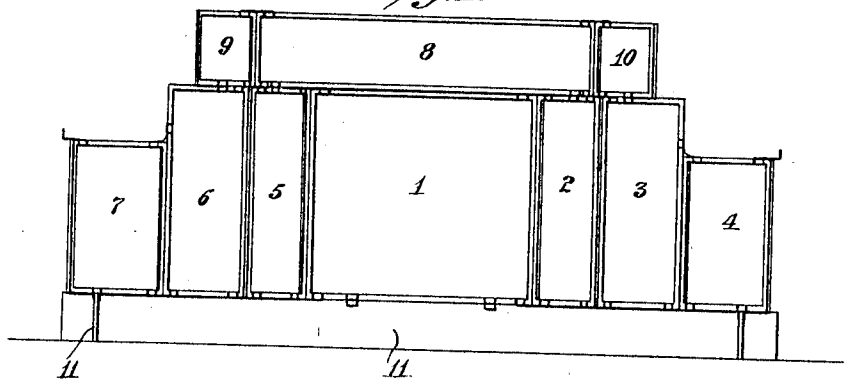


Fig. 2.

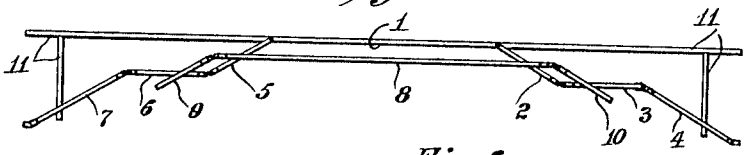


Fig. 3.

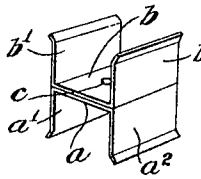


Fig. 4.

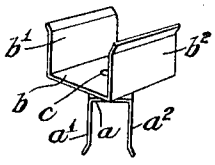


Fig. 5.

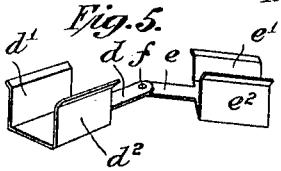


Fig. 6.

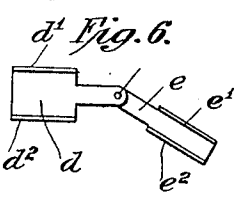


Fig. 7.

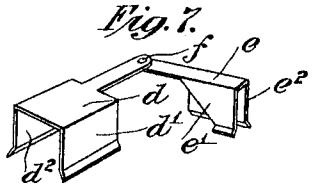


Fig. 8.

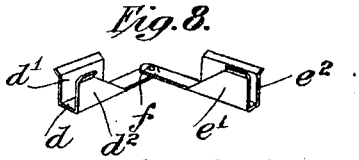


Fig. 9.

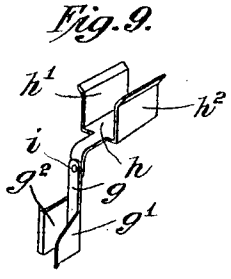


Fig. 10.

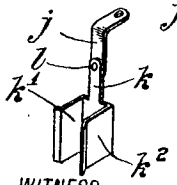


Fig. 11.

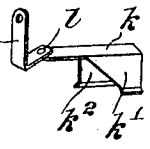
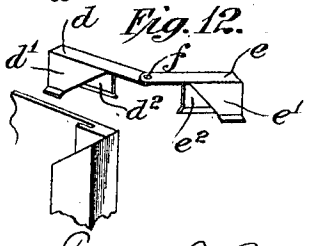


Fig. 12.



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KNOCKDOWN PICTURE-FRAME.

1,313,778. Specification of Letters Patent. **Patented Aug. 19, 1919.**

Application filed April 16, 1919. Serial No. 290,554.

To all whom it may concern:

Be it known that we, FRANK L. ATKINSON and NATHAN SCLAR, both citizens of the United States, residing at Hoboken, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Knockdown Picture-Frames, of which the following is a specification, reference being had therein to the accompanying drawings, which form a part thereof.

Our invention relates to knock-down picture frames, and more particularly to a frame structure formed of a plurality of connected panels adapted for use in making window displays.

Frames of the character to which our invention relates, are adapted for temporary use in display windows, each of the panels having mounted therein suitable printed or decorative matter which may be removably mounted in each of the frames. In order to adapt the frame structure to the available display space in a window, and permit variation in the relation of the various panels so that the window decoration may be changed at will, we provide a frame structure embodying therein connecting means between the different panels which in addition to being detachably connected with the panels or with the permanent structure of the display window, will be capable of such adjustment as to permit a variance in the angular relation of different panels with each other, and the association in a completed frame structure of unsymmetrical panels. The connecting means are so constructed that the frame may be readily and quickly assembled in a window and if it be desired to remove same therefrom, be as quickly taken down, without likelihood of injury to the various panels, thus permitting the convenient storage of the panels when not in use.

If desired, the frame structure instead of containing display matter, may embody therein panels of decorative material to be used as a backing for a window in ordinary window decorating work.

The connecting means between the different panels are so constructed that by providing them in sets, they may, by a proper selection, be interchangeably used in connection with frames of different widths or construction, so that any desired combination and arrangement of these frames may be secured.

The invention consists primarily in a knock-down picture frame embodying therein a plurality of independent panels, and independent means connecting said panels, each comprising two pivotally connected members, said members being adapted to be detachably connected with the edges of adjacent panels, whereby the angular relation of said panels may be varied, and said panels may be separated to dismantle the entire frame structure, and in such other novel features of construction and combination of parts as are hereinafter set forth and described, and more particularly pointed out in the claims, hereto appended.

Referring to the drawings,

Figure 1 is a front elevation of a frame structure embodying our invention;

Fig. 2 is a plan view thereof; and

Figs. 3 to 12 are perspective views of different elements of a set of connecting members used in the structure shown in Figs. 1 and 2.

Like letters refer to like parts throughout the several views.

In the embodiment of our invention shown in the drawings, we have illustrated it in connection with a frame structure arranged in two tiers, the lower tier being shown as being composed of a central panel 1, and side extension panels 2, 3, 4, 5, 6 and 7, said central panel and the panels on either side thereof being detachably and pivotally connected therewith and with each other by means of connecting elements, so that they may be brought to any desired angular relation with each other. The upper tier is shown as being composed of a central panel 8 occupying a different vertical plane from the panel 1, and side extension panels 9 and 10. The lower tier of panels is sup-

ported from the edge of a plank frame 11, although if desired they may rest directly upon the flooring of the window.

In erecting a frame structure such as that shown in the drawings, a number of differently formed connecting elements are employed, all of which, however, possess the one characteristic that they comprise two pivotally connected members, one of which is adapted to be detachably connected with the edge of one panel and the other of which is adapted to be detachably connected with the edge of an adjacent panel, or with the wall of the window.

These connecting elements are arranged in sets, the differences in structural details dividing each set into four general groups, the first of which is for connecting parallel tiers of panels, the second of which is for connecting the panels of each tier at the top and bottom thereof, the third of which is for connecting the side bar of one panel with the top bar of a lower panel, and the fourth of which is for connecting the end panels with the wall of the window. Group number one is shown in Figs. 3 and 4 of the drawings, group number two in Figs. 5 to 8, group number three in Fig. 9, and group number four in Figs. 10 and 11.

Referring more particularly to Fig. 3, this element comprises two members a and b, pivotally connected at c, the member a being provided with oppositely disposed spring flanges a'—a^2 adapted to engage opposite sides of the bar of a panel or of the supporting plank 11, while the member b is provided with similar flanges b'—b^2 projecting in the opposite direction from the flanges a'—a^2.

In Fig. 4 the arrangement is the same as in Fig. 1, with the exception that the member a is narrower than the member b, so as to bring the flanges a'—a^2 closer together and permit the application of the connection element to both a wide and a narrow bar, a condition necessitated by the fact that the upper bar of some panels is reduced in thickness and mortised, as shown in Fig. 12, for the purpose of permitting the insertion or the removal of a display card or other decorative matter, in or from, the panel. These elements shown in Figs. 3 and 4 are adapted to be used at any point of the top and bottom bar of the panels, except at the corners.

Referring now to the form of element shown in Figs. 5 to 8, these elements each comprise two members d and e pivotally connected at f, said members having at the outer ends thereof respectively, spring flanges d'—d^2 and e'—e^2, adapted to pass over and engage the top or bottom bars of the panel frame. These elements are adapted solely for use at the corners of the panels, the pivotal connection f forming a hinge connection between adjacent panels, the distance between the flanges carried by said members respectively affording the proper clearance for the desired pivotal movement of the panels in their entirety.

Figs. 5 and 6 are adapted for use at the top of the uppermost tier or at the bottom of the lowermost tier of panels, in Fig. 6 two of the flanges as d'—d^2, being closer together than the flanges e'—e^2 to permit the application of the element to panel frames of different widths.

In Fig. 7 the construction is the same as in Fig. 6 with the exception that one of the flanges as e', at the inner edge thereof, is cut at 45° to accommodate the miter joint of a reduced and rabbeted panel bar, thus affording an element which may be used in connection with two panels, one of which has a reduced top and mortised side bar, and the other of which has top and side bars not thus reduced and mortised.

In Fig. 8 the construction is the same as in Fig. 7, except that both members are narrow, and each has a miter cut upon one of the flanges to permit the application of the element to adjoining panels, the top bars of which are both reduced in width.

In all of the elements shown in Figs. 5 to 8, the pivot f will have a vertical axis when applied to the panels, so as to permit the angular relation of panels of the same tier to be changed at will, the movability of the elements shown in Figs. 3 and 4 with relation to their panel or their supporting plank, and the pivotal connection c of said last named elements, facilitating this adjustment.

In Fig. 12 we have shown the manner of applying the element illustrated in Fig. 8, to the frame of a panel.

Referring now to Fig. 9, this element is composed of one member g like the member e of Fig. 7, and a right angular member h pivotally connected thereto at i, the member g having spring flanges g'—g^2 similar to the flanges e'—e^2, and one angle of the member h having oppositely disposed spring flanges h'—h^2 similar to the flanges d'—d^2, the flange g' having a miter cut therein similar to that of the flange d' and for the same purpose. This element is designed for application to the side bar of one panel and the top bar of a shorter panel.

Referring now to the elements shown in Figs. 10 and 11, these elements are designed to engage the top bar of the end side extension panels and the structure of the window for the purpose of stabilizing the erected structure, each of these elements comprising a right angular plate j having a nail hole therein by means of which it may be attached to the side wall of the window, and a member k pivotally connected therewith at l and having oppositely disposed side flanges

k'—k^2 adapted to pass over and engage the top bar of the panel.

The element shown in Fig. 10 is adapted to engage a full width top bar, while the element shown in Fig. 11 has one of the flanges as k' mitered so as to engage a top bar of reduced thickness and a side bar having a mortise therein for receiving the display or decorative matter.

The various elements do not have to sustain any material load, their purpose being merely to pivotally connect the various panels and to hold them against toppling. These elements are so constructed and arranged that in assembling the frame structure, the elements of one group will readily adapt themselves to and coöperate with the elements of another group, so as to permit any desired angular relation of the panels of either tier, and any desired arrangement of the upper tier of panels in relation to the lower tiers.

The elements shown in Figs. 7, 9 and 11 may be made both right and left, to permit their use upon either side of any panel.

A full understanding of the invention can be had by considering the manner of erecting a frame structure such as that shown in Figs. 1 and 2 of the drawings.

In erecting this structure, an element like that shown in either Fig. 3 or 4 will be applied to the edge of the plank structure 11 with the spring flanges a'—a^2 inclosing an upper edge of this bar, and the element a resting upon the top thereof. The lower bar of the panel will then be forced between the flanges b'—b^2 until this lower bar comes to rest upon the member b. Any desired number of these elements may be used, although generally two or three will be sufficient. Before inserting the panel 1 between the flanges b'—b^2, elements like that shown in Fig. 5, are mounted at the lower corners of this panel by forcing the flanges e'—e^2 or f'—f^2 upon the lower bar thereof at each corner of the panel. If the panels 2 and 5 are narrower than the panel 1, or vice versa, elements like that shown in Fig. 6 may be used.

When the panel 1 has been thus secured in place, the panels 2 and 5 are mounted in relation thereto by means of the corner elements theretofore applied to the panel 1, and elements like that shown in either Fig. 7 or 8 are applied to the top adjacent corners of the panels 1 and 2 and 5, so that said panels 2 and 5 will thus be pivotally connected to the panel 1.

The panels 3 and 6 are connected to the panels 2 and 5 in the same manner that the panels 2 and 5 are connected to the panel 1, and by the use of similar elements, according to the relative width of the top bars. If the display card is to be inserted at the side of the panels 2 and 5, an element like that shown in Fig. 5 may be used at the top as well as at the bottom of the panels.

The lower edge of the panels 4 and 7 may be connected to the extensions of the plank support 11 by means of elements like that shown in Fig. 3 or 4, the lower corners of said panels 4 and 7 being connected to the adjacent panel by elements like that shown in Fig. 5 or 6, as the case may be, and the top corner nearest the adjacent panel being connected with the side bar of said panel by an element like that shown in Fig. 9.

After the structure has been thus assembled, the various panels may be brought to any desired angular relation by merely shifting the element connecting the panels 4 and 7 to the plank structure, a condition which arises from the pivotal relation of the various panels resulting from the application of the several connecting elements to the corners of adjacent panels.

When the assembling of a tier of panels has been completed, an element like that shown in Fig. 10 or 11 is applied to the top of the end side extensions as 4 and 7, and the member j of said elements is secured to the side wall of the window structure. If desired, a similar element may also be applied in like manner to the bottom bar of said end panels, and secured to the wall in the same manner.

In erecting a second, or succeeding tiers of panels upon the first panel erected, elements like those shown in Fig. 3 or 4 are mounted upon the top of bar any of the panels of the tier next below, and the panel 8 mounted in the other member of these elements. The side panels 9 and 10 are mounted in relation to the panel 8 in the same manner as the panels 2 and 5 are mounted in relation to the panel 1, said end panels being connected with panels of the lower tier by means of elements like those shown in Figs. 3 and 4.

It will be observed that the angular relation of panels of one tier does not in any way control the angular relation of the panels of a superimposed tier, and that therefore a frame structure made in accordance with our invention is particularly adapted for use in forming a background for window decoration and that it particularly lends itself to the decoration of irregularly shaped windows.

It is apparent that the number and size of panels used may vary indefinitely according to the available window space, and that the structure of the frame when once erected will be sufficiently stable for the purpose for which it is intended.

When it is desired to change a window display, the various panels may be separated by removing the connecting members which are merely frictionally held upon the several panels, thus avoiding any mutilation of

the bars of the panels. The panels may then be stacked without likelihood of the panel structures being marred by projecting metal parts.

Frames of the character to which our invention relates are ordinarily supplied by manufacturers or distributers of merchandise for decorating the windows of their dealers, and a frame made in accordance with our invention has the advantage that while the general display layout may be determined by the manufacturer or distributer, this scheme may be readily varied to adapt it to windows of different sizes, since the use of the detachable connecting members and the independent panels permits the expansion or contraction of the display as necessity may require.

It is not our intention to limit the invention to the precise details of construction shown in the accompanying drawings, it being apparent that such may be varied without departing from the spirit and scope of our invention.

Having described the invention, what we claim as new and desire to have protected by Letters Patent, is:—

1. A knock-down picture frame embodying therein a plurality of independent panels, and independent means connecting said panels, each comprising two pivotally connected members, each having oppositely disposed spring flanges extending substantially parallel with the axis of said pivotal connection and adapted to inclose and engage the edge of a panel, whereby the angular relation of said panels may be varied, and said panels may be separated to dismantle the entire frame structure.

2. A knock-down picture frame embodying therein a plurality of independent panels, some of which are of the same height and some of which are of a different height, connecting elements uniting said panels of the same height, each of said elements comprising two pivotally connected members having at the outer ends thereof respectively oppositely disposed spring flanges extending substantially parallel with the axis of said pivotal connection and adapted to engage the top or bottom bars of said panels, and connecting elements uniting the shorter panels with the longer panels consisting of a member having oppositely disposed spring flanges adapted to engage the top or bottom bar of said shorter panel, and a right angular member pivotally connected to said first named member and also having oppositely disposed spring flanges adapted to engage the side bar of the adjacent longer panel, whereby the angular relation of said panels may be varied, and said panels may be separated to dismantle the entire frame structure.

3. A knock-down picture frame embodying therein a plurality of independent panels, independent means connecting said panels, each comprising two pivotally connected members, said members being adapted to be detachably connected with the edges of adjacent panels, whereby the angular relation of said panels may be varied, and said panels may be separated to dismantle the entire frame structure, and an element comprising a right angular plate adapted to be attached to the side wall of a window structure, and a member pivotally connected therewith and having oppositely disposed side flanges adapted to pass over and engage the top bar of an end panel.

4. A knock-down picture frame embodying therein a plurality of independent panels arranged in different tiers, the panels of each tier being united by means of independent means connecting said panels, each comprising two pivotally connected members, said members being adapted to be detachably connected with the edges of adjacent panels, whereby the angular relation of said panels may be varied, and said panels may be separated to dismantle the entire frame structure, and the panels of different tiers being united by means of two pivotally connected members having oppositely disposed spring flanges, the spring flanges of said members projecting in opposite directions, whereby those of one member are adapted to engage a top bar of a panel in one tier, and the bottom bar of a panel in another tier.

5. A knock-down picture frame embodying therein a plurality of independent panels arranged in different tiers, some of said panels being of the same height, and others thereof being of a different height, the panels of the same height in each tier being united by independent connecting elements each comprising two pivotally connected members having thereon respectively oppositely disposed spring flanges adapted to engage the top or the bottom bars of adjacent panels, connecting elements uniting the shorter panels with adjacent longer panels consisting of a member having oppositely disposed spring flanges adapted to engage the top or bottom bar of the shorter panel, and a right angular member pivotally connected to said other member and also having oppositely disposed spring flanges adapted to engage the side bar of the adjacent longer panel, an element comprising a right angular plate adapted to be attached to the side wall of a window structure, and a member pivotally connected therewith and having oppositely disposed side flanges adapted to pass over and engage the top bar of an end panel, and the panels of different tiers being united by means of two pivotally connected members having oppositely disposed spring flanges, the spring flanges of said members projecting in opposite direc-

tions, whereby those of one member are adapted to engage a top bar of a panel in one tier, and the bottom bar of a panel in another tier, whereby the angular relation of the panels of each tier and the relation of the different tiers, may be varied, and said panels may be separated to dismantle the entire frame structure.

In witness whereof we have hereunto affixed our signatures, in the presence of two subscribing witnesses, this 2nd day of April, 1919.

FRANK L. ATKINSON.
NATHAN SCLAR.

Witnesses:
F. T. WENTWORTH,
CLARICE FRANCK.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."