Dec. 26, 1950 E. M. ROACH 2,535,160

COLLAPSIBLE STEP DISPLAY

Filed April 6, 1946 2 Sheets-Sheet 1

Fig. 1.

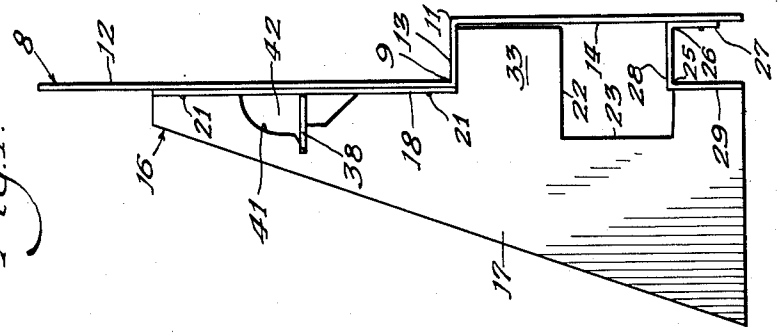


Fig. 2.

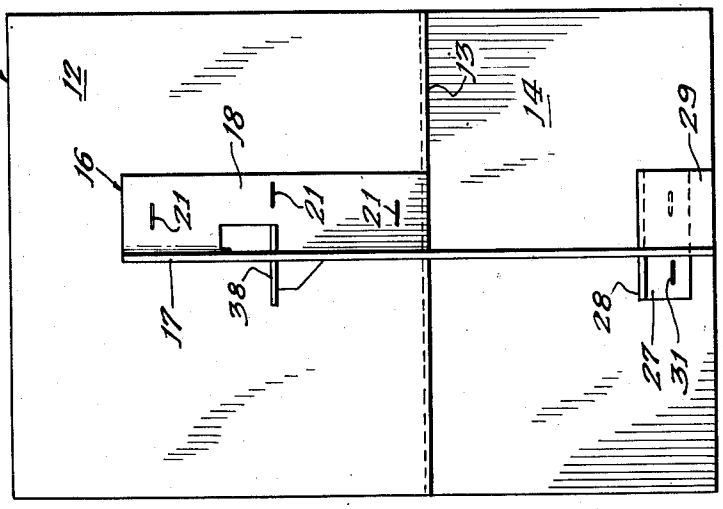
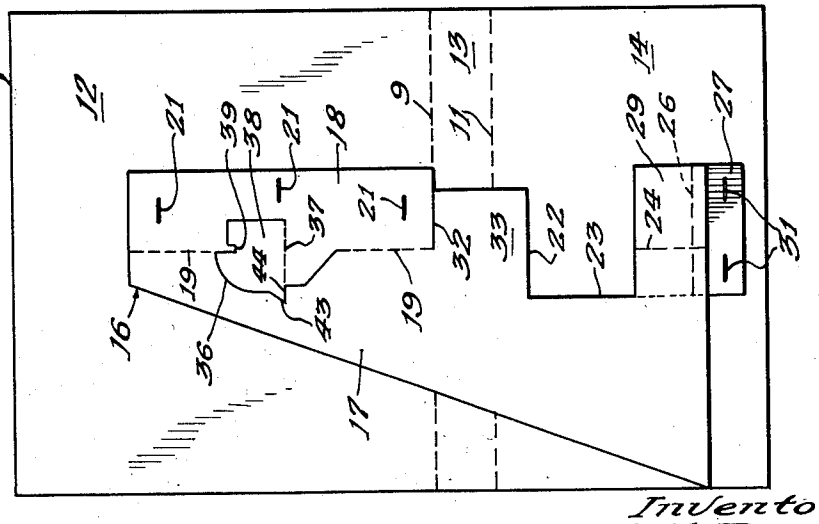


Fig. 3.



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COLLAPSIBLE STEP DISPLAY

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Fig. 4

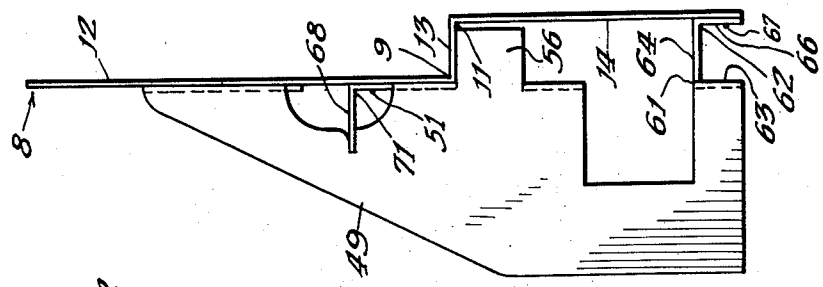


Fig. 5.

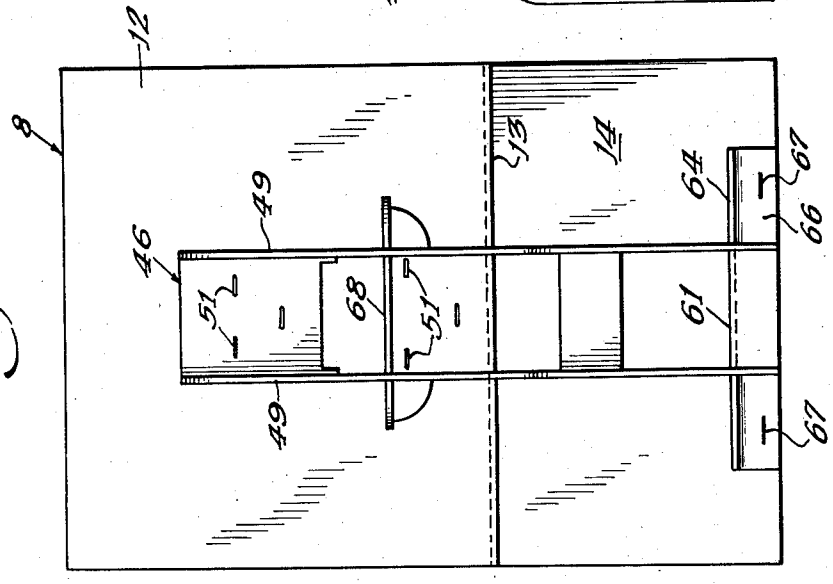
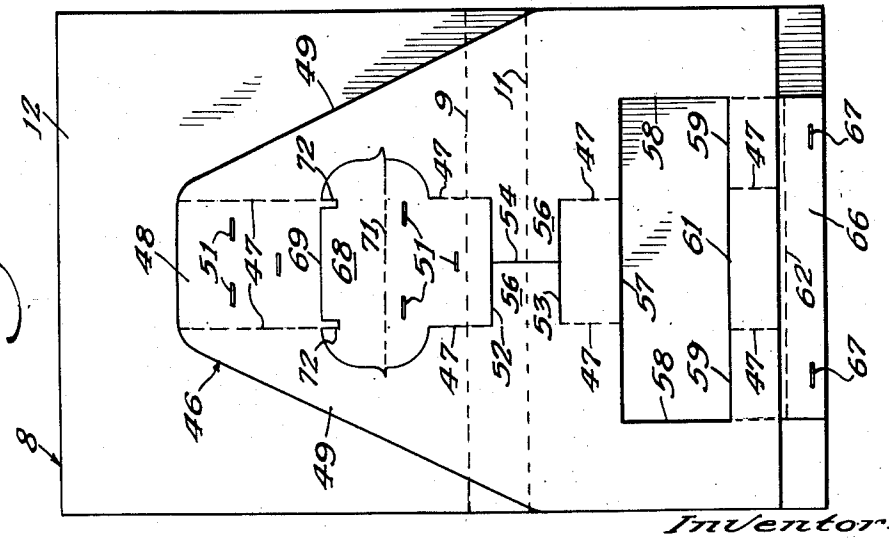


Fig. 6.



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2,535,160

COLLAPSIBLE STEP DISPLAY

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2 Claims. (Cl. 248—195)

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This invention relates to improvements in a collapsible step display, and is more particularly concerned with the provision of a step display embodying a single sheet of material adapted to be supported in step formation by means of an easel secured to the back side thereof, said sheet and easel being collapsible to provide a flat, compact unit suitable for shipping or storage.

This invention further contemplates the provision of a step display in which the sheet material is provided with a pair of parallel transversely extending score lines, defining panel, step and riser portions which are movable relative to each other to their extended positions by pivotal movement of the easel supporting wing outwardly from the plane of the sheet material to a position at right angles thereto.

This invention further contemplates the provision of a step display in which the easel is formed with a supporting tab disposed for pivotal movement against the underside of the step portion of the sheet material when the display is being arranged in its extended position.

This invention further contemplates the provision of a step display adapted to be supported in its extended position by means of a single wing easel or a double wing easel.

This invention embodies other novel features, details of construction and arrangement of parts which are hereinafter set forth in the specification and claims and illustrated in the accompanying drawings wherein:

Fig. 1 is a side elevational view showing a collapsible step display embodying features of this invention.

Fig. 2 is a rear elevational view of same.

Fig. 3 is a rear elevational view showing the display in its collapsed position.

Fig. 4 is a side elevational view showing a modified form of collapsible step display in which the easel is provided with two wing supporting portions.

Fig. 5 is a rear elevational view of same.

Fig. 6 is a rear elevational view showing the modified form of step display in collapsed position.

Referring now to the drawings for a better understanding of this invention and more particularly to Figs. 1 to 3 therein, a step display is shown as comprising a sheet of material 8, such as cardboard, provided with parallel transversely extending score lines 9 and 11 to define a panel section 12, a step section 13 and a riser section 14.

A single wing type of easel, generally indicated

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at 16, is formed from a sheet of cardboard to provide a supporting wing 17 having a top locking flap 18 hinged thereto along the score lines 19, the top locking flap being secured to the back side of the panel 12 by any suitable means, such as glue or staples, 21. The sheet material 16 is cut along the lines 22 and 23, and scored along the lines 24, 25 and 26 to form a bottom locking flap 27, a spacing section 28, and a hinge section 29. The bottom locking flap 27 is secured to the back side of the riser section 14 by means of either glue or staples 31. When the step display is in its extended position, it will be noted that the hinge section 29 is disposed in vertical alignment with the top locking flap 18, as illustrated in Fig. 1, and that the spacing section 28 is of proper width to dispose the riser section 14 in parallel alignment with the panel section 12.

The blank of sheet material 16 is also cut along the line 32 to provide a step supporting tongue 33 upon the wing portion 17. When the display is in its collapsed position, the step supporting tongue is disposed alongside the back face of the sheet material 8. When the display is moved to its extended position, the step supporting tongue pivots inwardly about a hinge connection defined by the score lines 19 for supporting engagement under the bottom side of the step 13. The sheet material 16 is also cut along the line 36 and scored along the line 37 to form a locking tongue 38 having a recess 39 formed therein to engage the edge 41 of the recess 42 to lock the display and its supporting wing 17 in extended position. The opening 42 extends outwardly at 43 to define a locking recess having an abutment shoulder 44 to limit downward pivotal movement of the locking tongue 38.

The step display is changed from its collapsed form, illustrated in Fig. 3, to its extended form, illustrated in Figs. 1 and 2, by pivoting the supporting wing 17 outwardly at right angles to its locking flap 18, causing the step section 13 to pivot upwardly about the score line 9 and into supported position upon the step supporting tongue 33. During upward pivotal movement of the step section 13, the riser section 14 moves upwardly and outwardly into parallel alignment with the panel section 12. After the display is in its extended position, the locking tongue 38 is pivoted downwardly to engage the edge 41 of the supporting wing 17 within the notch 39 to secure the step display in its extended position.

Figs. 4, 5 and 6 in the drawings illustrate a modified form of collapsible step display provided with a double wing easel formed of a single sheet

of material 46, such as cardboard. The sheet material 46 is scored along spaced parallel lines 47—47 to define a top locking portion 48 and hingedly connected wing sections 49—49, the top locking section 48 being secured to the panel section 12 by means of glue or staples 51. The sheet material 8 is formed with a pair of parallel transversely extending score lines 9 and 11, to define a panel section 12, a step section 13 and a riser section 14 as heretofore described in connection with the form of invention illustrated in Figs. 1, 2 and 3. The sheet material 46 is cut transversely at 52 and 53 and cut axially at 54 to provide a pair of step supporting tongues 56—56 for engagement under the step section 13 when the display is in its extended position, as illustrated in Figs. 4 and 5.

The sheet material 46 is also cut along the lines 57, 58—58, and 59—59, and scored at 61 and 62 to define a hinge section 63, a spacing section 64 and a bottom locking flap 66. The bottom locking flap 66 is secured to the riser section 14 by means of glue or staples 67.

A locking tongue 68 is formed on the sheet material 46 by means of a cut 69 and a score line 71. The locking tongue is formed with recesses 72—72 for locking engagement with the supporting wings 49—49 when the display is in its extended position.

The double wing easel type display is collapsed to form a flat, compact unit suitable for shipping or storage by moving the locking tongue upwardly against the back face of the panel section 12, then pivoting the supporting wings 49—49 into engagement against the back of the panel section 12. This folding movement of the supporting wings causes the step supporting tongues 56—56 to move from beneath the step section 13 to a plane parallel with the panel section 12; after which, the step section 13 and riser section 14 are free to move downwardly and inwardly into alignment with the panel section 12.

In each of the two forms of collapsible displays heretofore shown and described, it will be noted that each form may be simply and inexpensively constructed from two sheets of material, such as cardboard, to provide an attractive, sturdy structure when same is in its extended position, and further to provide a flat, compact unit suitable for shipping and storage when the display is in its collapsed position.

While this invention has been shown in but two forms, it is obvious to those skilled in the art that it is not so limited but is susceptible of various changes and modifications without departing from the spirit and scope of the claimed invention.

I claim as my invention:

1. A collapsible step display comprising a sheet of material scored to form hingedly connected panel, step and riser sections, a pair of easel wings hingedly connected in spaced parallel relation to said panel section, a tongue formed on each easel wing for supporting engagement under said step section, a hinge section pivotally connected to said easel wings and disposed in the plane of said panel section, a spacing section pivotally connected to said hinge section, said spacing section being equal to said step section in width, a bottom locking flap hinged to said spacing section and secured to said riser section, said spacing section being foldable downwardly against the front side of said hinge section and against the back side of said riser section, and a locking tongue formed with locking recesses for securing said easel wings in their extended positions, said locking tongue being pivotally movable from against the back side of the panel section to an easel wing engaging position at substantially right angles to said panel section.

2. A collapsible step display comprising a sheet of material cut and scored to form hingedly connected panel, step and riser sections, an easel wing hingedly connected to said panel section, a tongue formed on said easel wing for supporting engagement under said step section, a hinge section pivotally connected to said easel wing and disposed in the plane of said panel section, a spacing section pivotally connected to said hinge section, said spacing section being equal to said step section in width, a bottom locking flap hinged to said spacing section and secured to said riser section, said spacing section being foldable downwardly against the front side of said hinge section and against the back side of said riser section, and a locking tongue formed with locking recesses for securing said easel wing in its extended position, said locking tongue being pivotally movable from against the back side of the panel section to an easel wing engaging position at substantially right angles to said panel section.

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