Nov. 8, 1966 S. SWISLOW 3,284,272

MOUNTING MEANS

Filed Feb. 11, 1965

FIG. 1

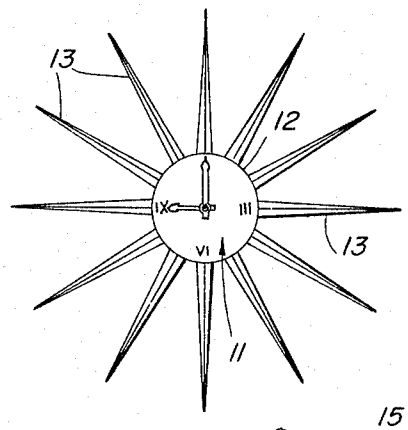
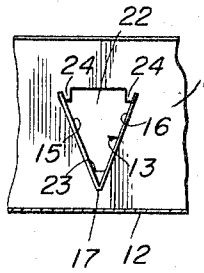


FIG. 3



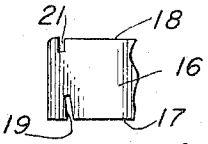


FIG. 5A

FIG. 2

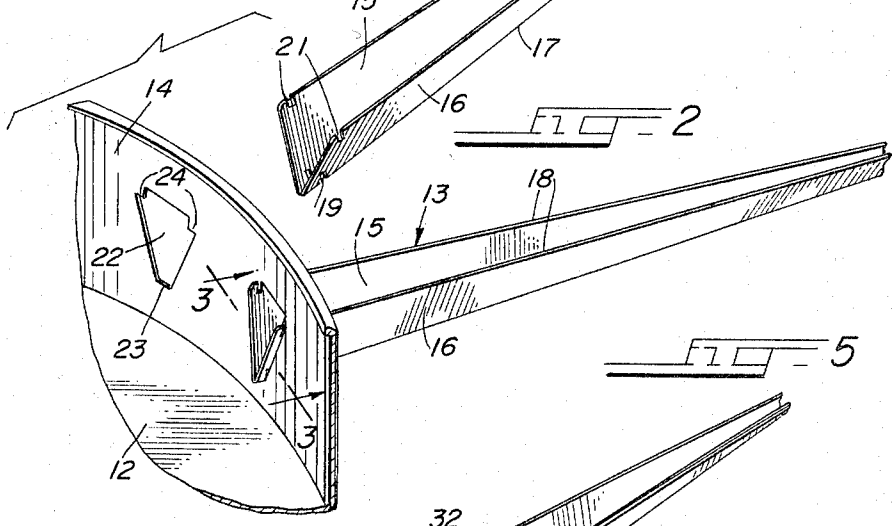


FIG. 5

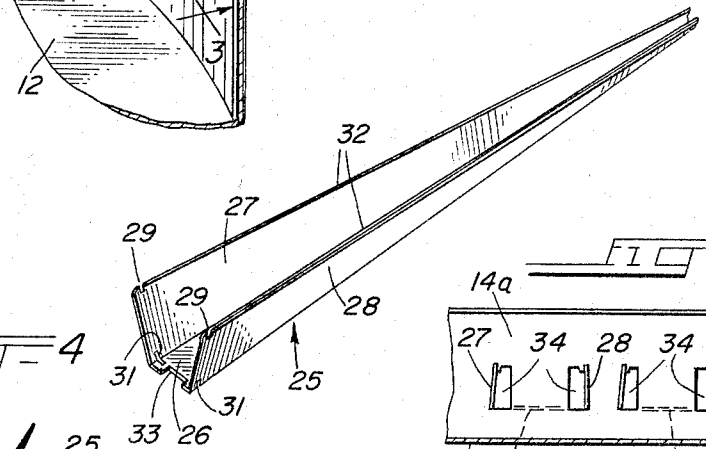


FIG. 6

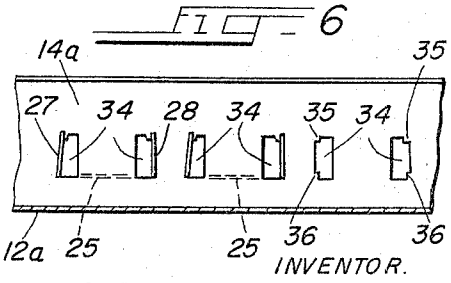
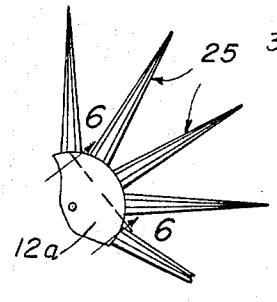


FIG. 4



INVENTOR.
SIDNEY SWISLOW
BY Maurice S. Cayne
Atty

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MOUNTING MEANS

Sidney Swislow, Glencoe, Ill., assignor to Harwood Manufacturing Co., Chicago, Ill., a corporation of Illinois

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The present invention relates generally to mounting means and more particularly to means for mounting a first element on a base element.

Devices to be shipped, which have a number of fragile or bulky elements attached thereto, can be broken if the elements are not disassembled beforehand. Therefore, devices of this type are usually constructed so that they can be disassembled and assembled rapidly without the aid of additional fastening means or the use of tools.

The invention teaches a new and improved mounting means which facilitates easy assembly and disassembly of fragile parts from their respective devices and also provides a very rigid connection.

It is therefore an object of the invention to provide new and improved mounting means for attachable parts.

Another object is to provide a mounting structure which enables each of a number of disassembled elements to be removably mounted on or dismounted from a mating part in a relatively short time.

Another object is to provide a mounting structure which does not require additional fastening means such as screws and the like.

Another object of the invention is to provide an economical mounting structure which is readily fabricated because of its simplicity.

With the foregoing and such other objects in view, which will appear as the description proceeds, the invention consists of certain novel features of construction, arrangement and combination of parts, hereinafter fully described, illustrated in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that various changes in forms, proportion, size and minor details of the structure may be made without departing from the spirit of the invention.

The structure by means of which the above noted and other advantages and objects of the invention are attained will be described in the following specification, taken in conjunction with the accompanying drawings, showing preferred illustrative embodiments of the invention, in which:

FIG. 1 is a front view of a clock embodying the mounting structure of the present invention and having a plurality of ornamental spears removably mounted thereto in alignment with each one of the hour positions on its face.

FIG. 2 is a fragmentary perspective view of the peripheral wall of the clock, looking from the inside of the clock, and showing the fastening of the spears to the said wall; one of the spears being detached therefrom.

FIG. 3 is a sectional view taken along line 3—3 of FIG. 2.

FIG. 4 is a fragmentary front view of a clock embodying a modified form of spears and mounting means.

FIG. 5 is a perspective view of one of the spears illustrated in FIG. 4, before it is assembled with the side wall of the clock.

FIG. 5A is a fragmentary elevational view of the inner end of the side wall 16 of the spear 13.

FIG. 6 is a fragmentary sectional view taken along line 6—6 of FIG. 4, illustrating the inside face of the peripheral wall of the clock with the spears of FIG. 5 attached thereto.

Referring more particularly to the exemplary disclosures of the invention shown in the accompanying

drawings, and particularly to the embodiment illustrated in FIGS. 1–3, the mounting means is illustrated in combination with a clock 11 comprised of a circular base element 12 having a plurality of spears 13 removably attached to the peripheral side wall 14 thereof. Preferably, the spears are attached one in alignment with each hour position of said clock. As clearly illustrated in FIG. 2, the spears 13 are V-shaped in section and each comprises a pair of substantially triangular side walls 15 and 16 each extending from a mutual edge 17 to the outside of free edges 18. All the edges taper to a common point of convergence.

Adjacent the ends of the side walls 15 and 16 opposite to the point of convergence, there is provided a notch 19 across the mutual edge 17 for cooperation with notches 21 provided in the side walls 15 and 16 when the spear is in an assembled position with the base element 12 to detachably lock the spear to said base element.

As more clearly shown in FIG. 5A, the notch 19 is inclined in a direction wherein the lowermost edge of said notch is a greater distance from the inner end of the spear than the upper edges of said notch which are in substantial alignment with the notches 21. This arrangement of the relative posiitons of the notches 21 with respect to the notch 19 is most important. It will be noted that by reason of this inclination of side portions of the notch 19, it is possible to obtain a snug fit between the spear and the base element when they are in their assembled operative position. The angular disposition of the notch 19 functions to draw the spear snugly against the base wall.

The peripheral side wall 14 of the base element is formed with circumferentially spaced triangular shaped openings 22. Each of these openings has an overall size sufficient to receive the notched triangular shaped end of a spear 13. The apex of the triangular opening 22 is foreshortened to provide a straight edge portion 23 and the base corners are each formed with an inwardly projecting wall area 24.

To mount a spear 13 on the peripheral side wall 14, the side walls 15 and 16 of the spear are compressed towards each other so as to enable the triangular mounting end thereof to be inserted into a triangular opening 22. The notch 19 on edge 17 is engaged over the foreshortened straight end portion 23 of said opening and when the contracting pressure on the side walls is relieved, the notches 21 receive the respective inwardly projecting wall areas 24 at the base of the triangular opening. Unintended disengagement of the spears from the peripheral side wall, or movement of them in either direction longitudinally is prevented by the engagement of the notches with the peripheral side wall areas. Should it be desired to disassemble the spears from the peripheral wall 14, this can be accomplished by compressing the spear side walls 15 and 16 toward one another sufficiently to disengage the notches 21 whereupon the spear may be moved to disengage the notches from the area 23 and the spear withdrawn from the triangular opening.

Although the spears are shaped triangularly it is contemplated that other variations in shape may well suit other elements to be mounted. Thus, it is intended that the scope of this invention include all different shapes of elements having walls that may be temporarily displaced to facilitate their mounting in correspondingly shaped openings.

A structure embodying one such modification is illustrated in FIGS. 4–6. In this embodiment, the spears 25 each include a top wall 26 as viewed in FIG. 6 and normally diverging side walls 27–28. The top and side walls are triangular in shape and converge to a common

point of convergence. Adjacent the ends of said side walls **27**, **28** opposite to the point of convergence are provided notches **29–31**. As shown, the notches **29** are formed in the free edges **32** of the side walls **27** and **28** whereas the notches **31** are formed in the corners joining the side walls **27** and **28** to the top wall **26**. Further, the top wall has formed at its inner end a recess **33** of a length less than the width of said wall, and having a depth to locate its bottom edge in substantial alignment with the innermost edges of notches **29–31**.

In this embodiment, the peripheral side wall **14***a* of the base element **12***a* has pairs of related openings **34** arranged so that each pair of said related openings may receive a spear. As best shown in FIG. 6, the openings **34** of each pair of related openings are substantially rectangular and each has on its outermost edge a pair of inwardly extending projections **35–36**. In order to mount a spear in a pair of said related openings, the side walls **27–28** of the spear are pressed toward one another to reduce its overall width. The notched end of the spear then is inserted into a related pair of openings **34**. The notches **31** are initially engaged over the projections **36** and when holding pressure is relieved, the notches **29** each engage over its respective cooperating related projection **35**, thereby locking the spear in place.

Although I have described preferred embodiments of my invention, in considerable detail, it will be understood that the description thereof is intended to be illustrative, rather than restrictive, as many details of the structure may be modified or changed without departing from the spirit or scope of the invention. Accordingly, I do not desire to be restricted to the exact construction described.

I claim:

1. A wall display comprising

a support having a peripheral side flange,

said side flange having a plurality of mounting openings formed therein and spaced therearound,

each of said openings being formed with a central portion and a marginal portion of reduced dimension,

a plurality of elongated display members extending outwardly from said support,

each of said display members comprising a pair of resiliently divergent walls,

said walls being formed with a plurality of notches adjacent the mounting end thereof,

the mounting ends of said members being positioned through said openings and said notches and walls closely engaging the marginal portions of said openings to hold the members firmly against rocking movement,

said walls being resiliently compressible to disengage said marginal portions and move said walls into the central portions of said openings whereby said members may be readily removed from said flange.

2. The wall display of claim **1** in which said display members are V-shaped in section,

said walls being connected together by a common longitudinal edge,

said notches opening to the free edges of said walls,

said openings being substantially triangular in configuration,

flange portions projecting into said triangular openings at opposite ends of the base thereof to afford reduced dimension leg portions,

said notches snugly receiving said flange portions and said walls bearing against said leg portions.

3. The wall display of claim **2** in which the apex of each of said triangular openings is foreshortened to provide a straight edge,

said display member walls being formed with a third notch opening to the common edge,

said straight edge being snugly received in said third notch.

4. The wall display of claim **3** in which said third notch tapers inwardly toward said mounting end.

5. The wall display of claim **1** in which said display members are channel-shaped in section and have a connecting web therebetween,

said web and walls being formed with third and fourth notches opening to the common edges therebetween,

said flange being formed with pairs of substantially rectangular of said openings,

flange portions projecting into opposed corners of each of said pairs of openings to afford said reduced dimension marginal portions.

said first and second notches snugly receiving said flange portions, said third and fourth notches snugly receiving corner portions of said rectangular openings and said walls bearing against said reduced dimension marginal portions.

References Cited by the Examiner

UNITED STATES PATENTS

1,986,550	1/1935	Ziemmerman	40—126 X
2,055,010	9/1936	Green	52—473 X
2,115,243	4/1938	Schmidt	40—124.1
2,792,598	5/1957	Coe	20—63 X
2,847,780	8/1958	Ellerman	40—125

RICHARD B. WILKINSON, *Primary Examiner.*

GERALD F. BAKER, *Examiner.*