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(54) Display stand.

(57) A display stand (1) comprises a support frame (2) and at least one rotary rack arrangement (8) carried by the support frame (2), the rotary rack arrangement (8) comprising a plurality of tiers (9) of shelves (10) mounted on a support column rotatably mounted on the support frame (2), the support column comprising a main support rod (15) passing through the shelf tiers (9), and spacers (18) located around the main support rod (15) and situated between the tiers (9) and between the tiers (9) and the ends of the support column , each tier (9) comprising at least two channel section horizontal members (12) positioned one on top of the other and at an angle to one another, each channel section member (12) extending radially outwardly from both sides of the support column to form two shelves (10) with vertically extending sides formed by the sides of the channel for supporting articles placed on the shelves (10) and extending parallel therewith.

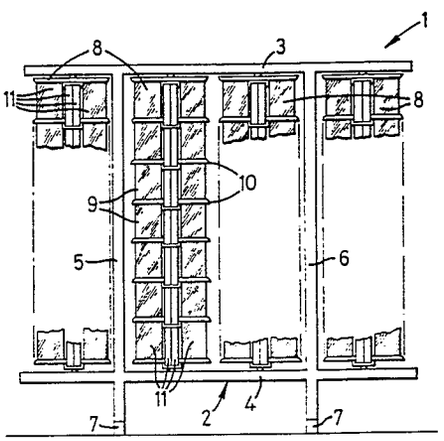

FIG. 1

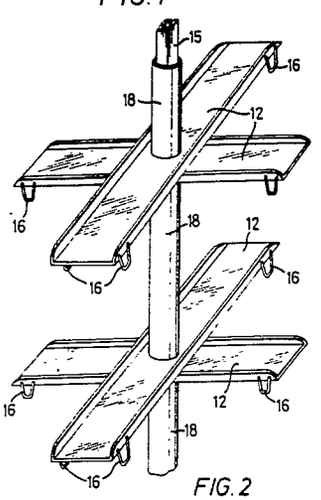

FIG. 2

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DISPLAY STAND

This invention relates to a display stand, particularly for the display of videos, books or similarly shaped articles.

In the video sales or rental business, it is generally considered to be desirable to have the maximum number of videos on display so as to attract customers. However, displayed videos take up large amounts of wall space when on full display and, if it is desired to display a large number of videos, relatively large premises are required which makes the video sales or rental operation expensive, particularly as, for maximum success, video rental or sales shops are often located in premium positions.

Many efforts have been made to cut down on the amount of space rquired for display purposes, ranging from racks which store the videos at a slant angle, so that only a half or less of each video cover is visible, to rotary types containing rotating racks which leave only a relatively small percentage of the videos in the rack visible without extracting the video. The latter types also have the disadvantage that most of those currently on the market, are very labour intensive as far as production is concerned and are thus relatively expensive.

The present invention seeks to provide a display stand suitable for displaying videos, books or the like which enables display of a relatively large number of articles while taking up arelatively small area.

According to the invention, there is provided a display stand comprising a support frame and at least one rotary rack arrangement carried by the support frame, the rotary rack arrangement comprising a plurality of tiers of shelves mounted on a support column rotatably mounted on the support frame, the support column comprising a main support rod passing through the shelf tiers, and spacers located around the main support rod and situated between the tiers and between the tiers and the ends of the support column , each tier comprising at least two channel section horizontal members positioned one on top of the other and at an angle to one another, each channel section member extending radially outwardly from both sides of the support column to form two shelves with vertically extending sides formed by the sides of the channel for supporting articles placed on the shelves and extending parallel therewith.

Preferably each tier of shelves comprises two channel section support members extending a right angles to each other and of a width such as to support two video cases or like articles upright and radially of the support column.

Each channel section shelf of the tiers above the lowest may have depending elements at its outer lower edges to provide lateral support for the video cases or like articles in the shelf below.

The main support rod may be a square sectioned rod on which the tiers of shelves are mounted and which has pivot means at both ends for pivoting on the frame.

The channel section support members may be provided centrally with a square aperture through which the square sectioned rod can pass, the individual support members being placed on the rod at right angles to each other so as to be spaced from each other by the height of the sides of the channel.

The invention will now be described in greater detail, by way of example, with reference to the drawings, in which:-

Figure 1 is a front elevational view of a video stand in accordance with the invention;

Figure 2 is a partial perspective view of the video stand shown in figure 1 showing two tiers of a shelf arrangement;

Figure 3 is a partial sectional view of the top end of a support column for a shelf arrangement;

Figure 4 is a partial sectional view of the bottom end of the support column, the upper end of which is shown in figure 3, and

Figure 5 is a sectional view through one tier of shelves showing the location of spacers.

Referring firstly to figure 1, there is shown a video display stand 1 comprising a suppor frame 2 including a top bar 3, a bottom bar 4, two vertical bars 5 and 6 connectimg the top and bottom bars 3 and 4 and feet 7. Carried between the top and bottom bars 3 and 4 are four rotary rack or shelf arrangements 8 each comprising seven tiers 9 of shelves 10. Each tier 9 is constructed to carry eight video cases, four of which can be seen at 11. As can be observed, each shelf 9 carries two video cases so that at any one time, two cases are in full side view and two are in end view.

The construction of the rack or shelf arrangements will now be considered in greater detail with reference to figures 2 to 5:

Each shelf member 12 comprises a channel section element with a central square aperture 14 and provides two shelves 10 which extend radially outwards from an inner square sectioned main support rod 15. Each tier 9 is formed of two shelf members 12 arranged at right angles to each other and located one above the other. The arrangement of the shelf members one on top of the other provides for a stronger but less expensive con-

struction than an arrangement in which the shelves are cut away so as to lie substantially in the same plain. Surprisingly, this staggered arrangement of the shelves does not detract from the visual aspect thereof as might have been anticipated.

The width of the channel section is such as to take the width of two video cases 10 (see figure 1). The upper end of the video cases 10 are supported by a pair of downwardly extending generally V-shaped wire elements 16 welded to the associated shelf element 12 of the tier 9 above.

It will be appreciated that no wire elements 16 are required from the bottom tier 9. The video cases in the top tier 9 are supported at their upper ends by similar shelf elements 12 to those of the other tiers but the wire elements can be dispensed with here by reversing the shelf members 12 so that their channels face downwards instead of upwards.

Each of the tiers 9 are spaced apart by the appropriate distance using spacers 18 of hollow circular rod of larger dimensions than the rod 15. Smaller U-shaped spacers 20 are used between associated shelf members 12 to ensure that that the channels do not distort under pressure which is applied to them on assembly. The main support rod 15 passes through the open part of the U of the spacers.

The lower end of the rod 15 is provided with a plate 21, suitably, of square shape, which is welded to the rod 15 to form a head thereon. A piece of circular rod 23 is welded into the rod 15 to form a pivot which runs in an aperture 24 in the bottom bar 4.

The upper end of the rod 15 is provided with a washer 25 and is provided with a circular rod 27 welded or otherwise secured into the rod 15. The rod 27 is threaded to receive a nut 26 for assembly purposes. The outer end of this rod 27 forms a pivot which runs in an aperture 28 in the top bar 3.

In order to assemble a shelf arrangement, the shelf members 12 and their associated spacers 18 and 20 are threaded onto the rod 15. When these are all in place, the washer 25 is placed on the rod and the nut 26 is screwed on to the end of the rod 27, securing all the parts of the arrangement under compression. The top bar is liftable, possibly using telescopic vertical bars so as to increase the spacing between top and bottom bars and allow sufficient room for insertion of the pivots on the end of the support column.

As can be seen, the display stand described will carry 224 videos of which 56 are in full side view and a further 56 are in end view. The side views of any of the videos carried by the stand can be inspected merely by rotating the shelf arrangement which carries it.

It will be understood that the display stand according to the invention is not limited to the arrangement of four shelf arrangements as shown. Any suitable number of shelf arrangements can be used ranging from one upwards. Also the shelf arrangements need not be in a straight line as shown. They could equally be positioned at the corners of a triangular frame (three shelf arrangements) or a square frame (four shelf arrangements).

It will also be appreciated that various modifications or additions may be made to the above described embodiment without departing from the scope of the invention. For example, if desired, four shelf members could be provided for each tier of a shelf arrangement, the members being arranged at 45°.

Furthermore, instead of the use of circular spacers, square or other sectioned spacers could be used as desired.

If it is desired to maintain the shelf arrangements stationary, locking means may be provided. For example, the upper pivot could be extended through the frame so as to protrude from the top bar thereof. If this projecting part is threaded, a nut may be used to lock the rack arrangement to the frame. Alternatively, where no rotating facility is required, the shelf arrangement may be welded to the frame.

The wire loops used to support the upper end of the video cases could be replaced by depending cut outs if required. Also, a lip could be provided at the ends of the shelves to prevent the videos from edging forward when the shelf arrangement is rotated. Alternatively, a slightly extended portion of the end of the shelf may be inclined upwardly in the direction of the end or a small hump or corrugation or a number of pips may be formed in the ends of the shelf for a similar purpose. Asimilar hump or corrugation could be provided at the inner ends of the shelves for rear location of the video cases.

Instead of the use of the rod 27, the rod 15 could, if solid be turned and threaded at its upper end. It will also be understood that, while the invention is particularly suitable for displaying videos, it is equally suitable for the display of books, particularly paper backs, which are of standard size. Other articles of similar shape could also be displayed.

Claims

1. A display stand (1) comprising a support frame (2) and at least one rotary rack arrangement (8) carried by the support frame (2), characterised in that the rotary rack arrangement (8) comprises a plurality of tiers (9) of shelves (10) mounted on a support column rotatably mounted on the support

frame (2), the support column comprising a main support rod (15) passing through the shelf tiers (9), and spacers (18) located around the main support rod (15) and situated between the tiers (9) and between the tiers (9) and the ends of the support column , each tier (9) comprising at least two channel section horizontal members (12) positioned one on top of the other and at an angle to one another, each channel section member (12) extending radially outwardly from both sides of the support column to form two shelves (10) with vertically extending sides formed by the sides of the channel for supporting articles placed on the shelves (10) and extending parallel therewith.

2. A display stand as claimed in claim 1, characterised in that each tier (9) of shelves (10) comprises two channel section support members (12) extending a right angles to each other and of a width such as to support two video cases (11) or like articles upright and radially of the support column.

3. A display stand as claimed in claim 2, characterised in that each channel section shelf (10) of the tiers (9) above the lowest has depending elements (16) at its outer lower edges to provide lateral support for the video cases (11) or like articles in the shelf (10) below.

4. A display stand as claimed in any one of claims 1 to 3, characterised in that the main support rod (15) is a square sectioned rod on which the tiers (9) of shelves (10) are mounted and which has pivot means (23,27) at both ends for pivoting on the frame (2).

5. A display stand as claimed in claim 4, characterised in that the channel section support members (12) are provided centrally with a square aperture (14) through which the square sectioned rod (15) can pass, the individual support members (12) being placed on the rod (15) at right angles to each other so as to be spaced from each other by the height of the sides of the channel.

6. A display stand as claimed in claim 5, characterised in that the spacers (18) are hollow and of circular cross section of a dimension such as to fit into the main support rod (15).

7. A display stand as claimed in claim 6, characterised in that spacing members (20) are located between individual shelf members (12).

8. A display stand as claimed in claim 7, characterised in that the spacing members (20) comprise U-shaped elements through the central space of which the main support rod (15) passes.

9. A display stand as claimed in claim 6, 7 or 8, charavcterised in that a fixed flange (21) is provided at one end of the main support rod (15), the other end being provided with a washer (25), this latter end of the rod (15) being provided with a threaded portion (28) to receive a nut (26) for holding the parts of the rotary rack arrangement (8) together.

10. A display stand as claimed in claim 9, characterised in that the arrangement of the washer (25) and nut (26) is such that the parts of the rotary rack arrangement (8) are held together under compression.

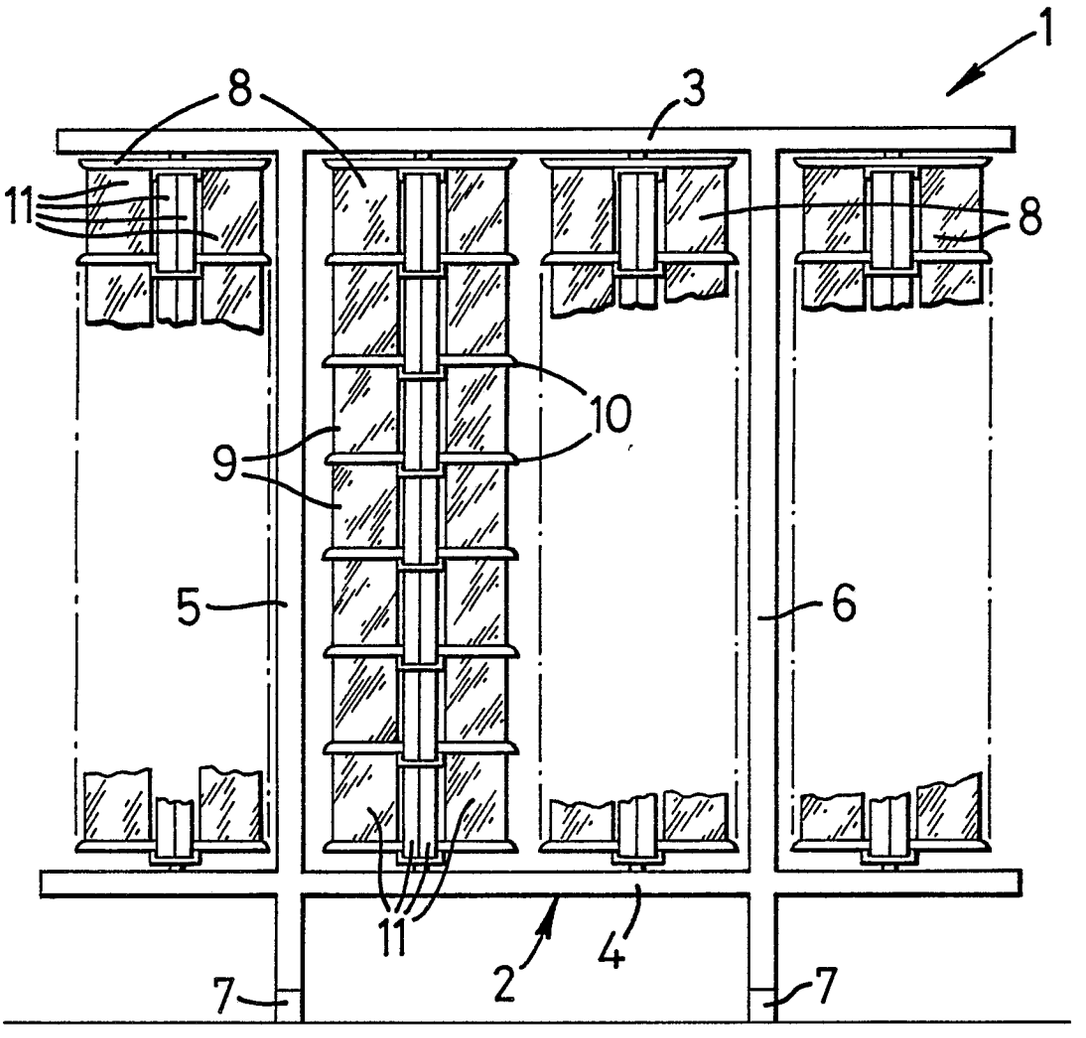


FIG. 1

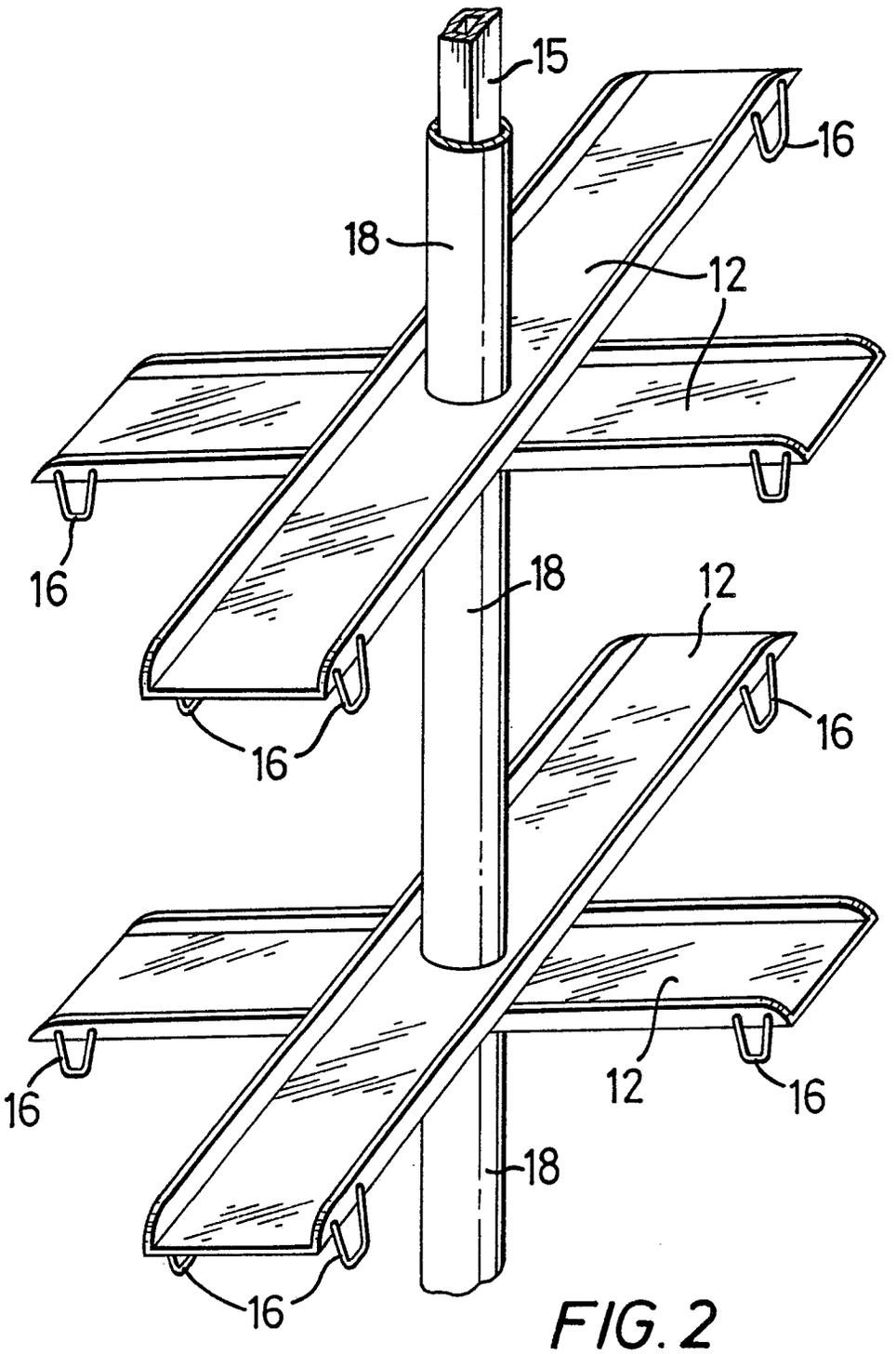
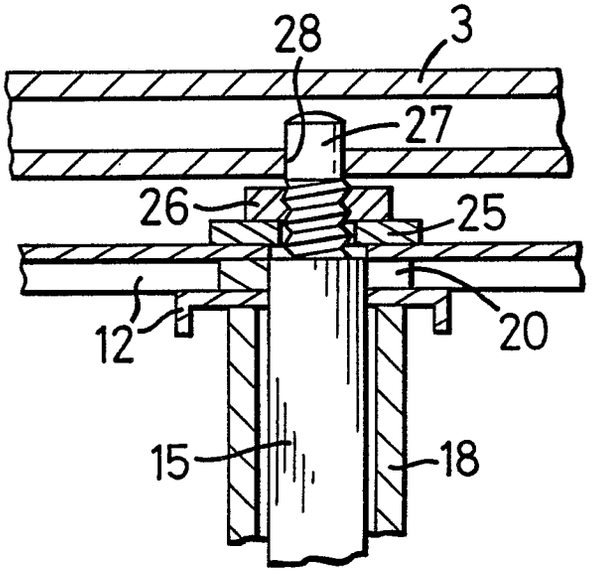


FIG. 2

FIG. 3



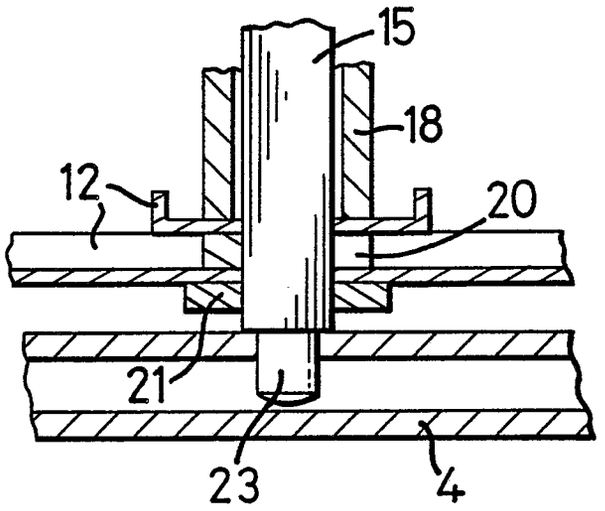
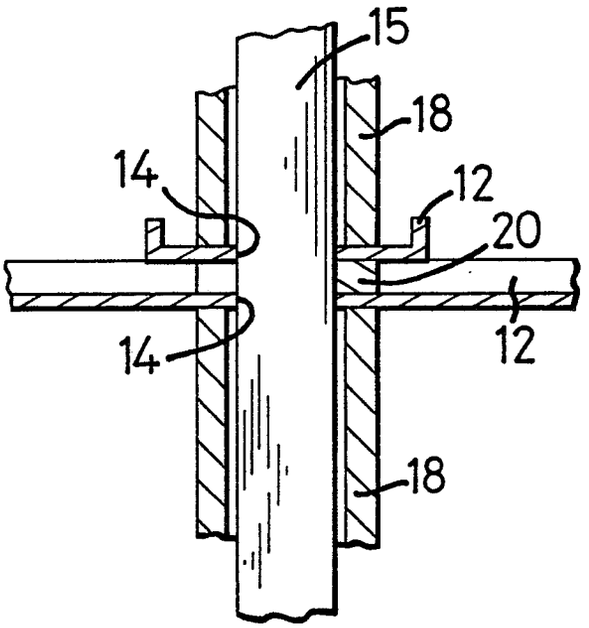


FIG. 4

FIG. 5



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EUROPEAN SEARCH REPORT

Application Number

EP 88 30 8624

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.4)
Y	DE-B-1 074 387 (SEIBERT) * Whole document *	1,2,3,4,5	A 47 F 5/02
A		6,9,10	
Y	US-A-2 488 582 (CINAMON) * Column 2, line 15 - column 3, line 7; column 3, line 68 - column 4, line 16; figures 1-3,9 *	1,2,3,4,5	
A	US-A-2 755 583 (LOEB) * Whole document *	1-7,9,10	
A	US-A-2 972 415 (RENSCH) * Whole document *	1-5,9,10	TECHNICAL FIELDS SEARCHED (Int. Cl.4)
A	GB-A- 144 970 (AMSDEN) * Whole document *	1-5	A 47 F

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	16-12-1988	OFFMANN P.A.

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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