# United States Patent [19]

**Mohr**

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[54] **SUSPENSION DEVICE**


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**Related U.S. Application Data**

[63] Continuation of Ser. No. 216,608, Jan. 10, 1972, abandoned.

[52] **U.S. Cl.** ..... **40/152;** 24/67.3

[51] **Int. Cl.²** ..... **G09F 1/12**

[58] **Field of Search** ..... 248/488, 489, 490, 495, 248/316 D, 473; 24/67.3, 255 R, 255 S, 255 P; 40/128, 155, 11



[56] **References Cited**

UNITED STATES PATENTS

| | | | |
|---|---|---|---|
| 1,877,189 | 9/1932 | Massobrio et al. | 40/155 |
| 2,377,222 | 5/1945 | Fruth | 248/473 X |
| 3,208,170 | 9/1965 | Madey | 40/140 X |
| 3,451,153 | 6/1969 | Dohanyos | 40/155 |
| 3,552,702 | 6/1971 | Springer | 40/11 X |
| 3,665,628 | 5/1972 | Dammond | 40/155 |



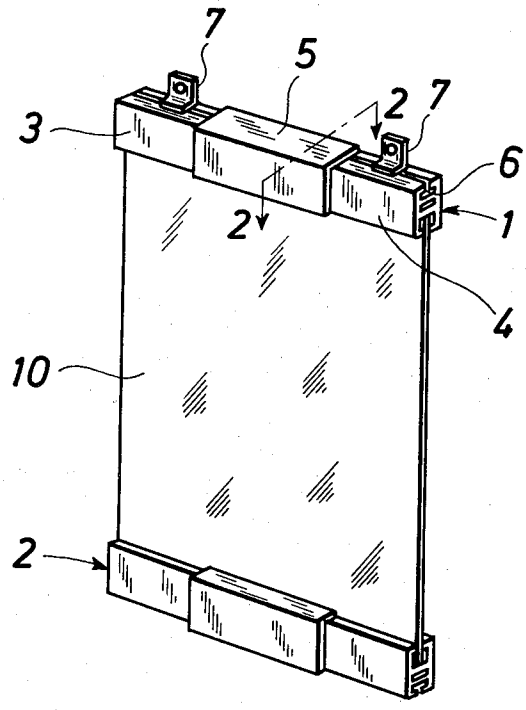
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[57] **ABSTRACT**

A suspension device by means of which a reproduction or poster may be arranged on a nail in a wall is provided. It consists of at least one pair of frame portions. Each portion consists of two hollow clamp rods and a hollow cover rod. The clamp rods are telescoped in the cover rod and show one or more particular grooves, in which suspension portions having holes may slide. The clamp rods have H-like cross-sections.


**5 Claims, 5 Drawing Figures**



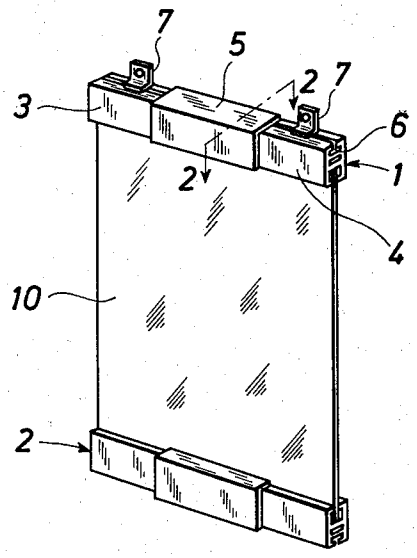



Fig. 1

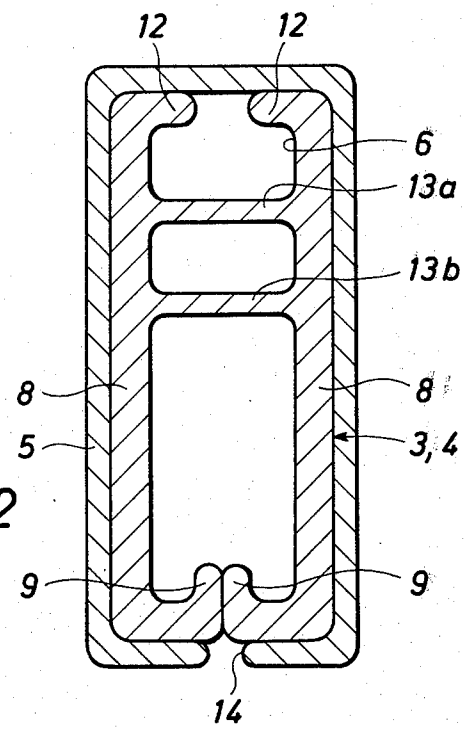



Fig. 2

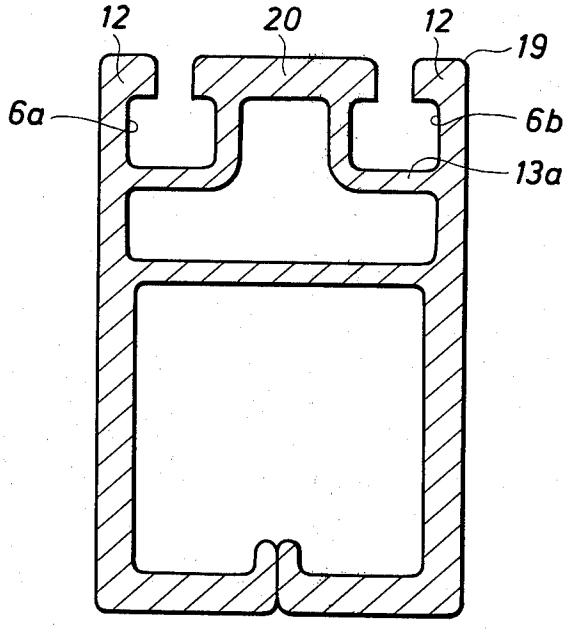



Fig. 3

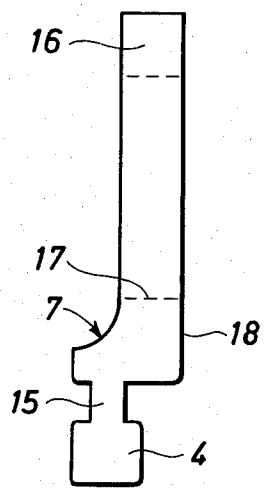



Fig. 4

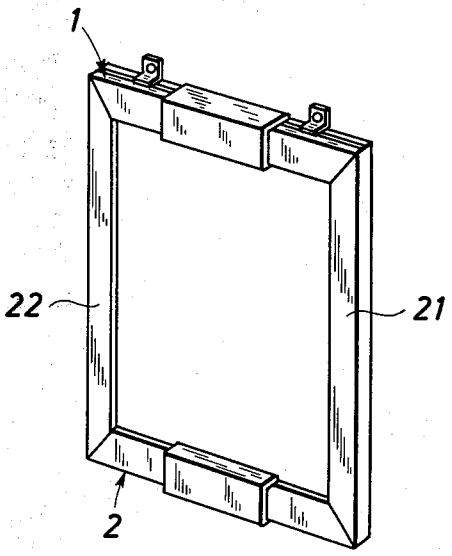



Fig. 5

# SUSPENSION DEVICE

This is a continuation, of application Ser. No. **216,608,** filed Jan. **10, 1972** now abandoned.

## BACKGROUND OF THE INVENTION

This invention relates to a suspension device which may be used by arranging pictures, such as reproductions or posters on a wall.

For arrangement of reproductions, posters, or the like printings on a wall it is known to place a single clamp rod at the top and at the bottom of the poster so that the poster looks more attractive. A string is fixed in the upper rod so that the poster may be fixed to a nail in a wall. The clamp rods may only be used for posters or reproductions having a certain width; therefore their application possibilities are limited.

The object of the present invention is to provide a suspension device of the above mentioned kind, and which may be used for posters, reproductions, or the like printings of different widths.

## SUMMARY OF INVENTION

The suspension device according to the invention is characterized in that it comprises at least one pair of parallel frame portions, each portion consisting of two clamp rods which are arranged in a covering rod so that they may be displaced as a telescope in the longitudinal direction of the covering rod. Hereby is obtained that the clamp rods may be drawn from each other or moved towards each other depending on the width of the poster or reproduction to be suspended. The suspension device looks as it is specially manufactured for the present poster or reproduction.

According to the invention the upper side of the clamp rods may be provided with at least one longitudinal groove, wherein at least two suspension portions having holes may be displaced. Hereby it is possible to move the suspension portions into such positions which correspond with such nails which have previously been driven into the wall.

Further according to the invention the clamp rods may have a profile which is substantially H-shaped, the lower ends of the side webs of said H being provided with inwardly and upwardly extending protrusions, while the upper end of the side webs of said H has an inwardly extending protrusion defining part of said groove. Hereby is obtained that a poster or reproduction may easily be clamped between the side webs, as it is pressed between the lower end webs. Further is obtained that the groove will show a certain undercutting.

According to the invention the horizontal transverse web of the H-profile may be formed as two relatively thin webs which are arranged in parallel and spaced. Hereby the rigidity of the clamp rod is improved.

Further according to the invention it is possible that the H-profile has a relatively great horizontal thickness, and that the uppermost web of the relatively thin horizontal webs in the middle of said H is provided with a bulging part for forming two grooves at the upper end of said H. Hereby is obtained that the suspension device is particularly suitable for very heavy reproductions, and such reproductions which are covered by a clear sheet. Independent of which side of the clamp rod is facing the wall, there will always be one groove which is close to the wall. Hereby the arrangement of the suspension portions is made very easy.



According to the invention it is also possible that the cover rod may have a profile which circumscribes the profile of the clamp rods, the webs of the cover rod profile being relatively thin compared with the thickness of the side webs of said clamp rods. Hereby is obtained that the clamp rods are guided very safely within the cover rod.

According to the invention each suspension portion may have such thickness that the rear side thereof extends behind the edge of said clamp rod or registers with said edge. Hereby is obtained that the suspension portion may be arranged very close to the wall at the place where the suspension device should be arranged. This ensures safe fixing of the suspension device.

According to the invention the side webs of said H may be relatively thick, whilst the transverse web or webs in the middle of said H are relatively thin. Hereby is obtained that the end webs extending from the side webs may keep a poster or reproduction with a certain elasticity.

Finally according to the invention two frame portions may be connected with two clamp rods, the length of which is constant. Hereby is obtained that the poster or reproduction to be suspended may be provided with a frame all the way round along its edges.

## DESCRIPTION OF DRAWINGS

The invention is now described with reference to the drawing, in which

FIG. **1** shows a perspective view of an embodiment of the suspension device according to the invention mounted on a poster,

FIG. **2** a section after line **2—2** in FIG. **1,** the poster being removed,

FIG. **3** a second embodiment of the clamp rod in the device according to the invention - seen in cross-section,

FIG. **4** a side view of a suspension portion which may slide in the groove or grooves in the clamp rods of FIGS. **1–3,** and

FIG. **5** a second embodiment of the suspension device according to the invention formed as a frame.

## DETAILED DESCRIPTION

The suspension device as shown in FIG. **1** consists of two frame portions **1** and **2,** substantially corresponding with each other in construction. The frame portion **1** consists of two elongated members or clamp rods **3** and **4** which – in telescopic manner – may be moved within a sleeve member or cover rod **5.** From FIG. **2** it appears how the profile of the cover rod nearly surrounds the profile of a clmap rod completely.

On the upper side of the clamp rods a longitudinal groove **6** is provided. In this groove suspension portions **7** are arranged. These portions may be moved so as to register with two nails which have previously been driven into the wall on which the suspension device is to be arranged.

As appears from FIG. **1** the clamp rods **3** and **4** have a substantially H-shaped profile, the lower ends of the side webs of said H being provided with inwardly and upwardly extending end webs **9.** The upper end of the side webs are provided with protrusions **12** extending towards each other. The end webs **9** just touch each other so that a certain clamp effect is provided between them when a reproduction or a poster is moved into the space between them. Between the protrusions **12** there

is a suitable distance so that the suspension portions 7 will not wedge in the groove 6. The H-profile may have a thick horizontal transverse web or two relatively thin webs 13*a* and 13*b* which are arranged spaced and in parallel. The cover rod 5 contacts the external side of the clamp rod in tight manner. At the bottom of the cover rod there is provided a longitudinal slot 14 so that the reproduction or poster may be moved through the rod 5. The suspension portions which may be moved to and fro in the groove 6 - confer FIG. 1 - may be shaped as shown in FIG. 4. Each suspension portion 7 is provided with a shoe which may slide in the groove 6. This shoe is by means of a connection portion 15 connected with a suspension plate 16 having a hole 17. When the suspension device is to be arranged on a nail in a wall, both suspension portions are moved onto the nail. The suspension portion 7 normally has such thickness that its rear surface 18 will extend behind one edge of the clamp rod or register with this edge. This is clearly seen when the suspension portion of FIG. 4 is used in connection with the suspension rod of FIG. 3 - confer below.

In FIG. 3 is shown a second embodiment of the profile of the clamp rods. The shown profile is rather thick for which reason there is sufficient space for two grooves 6*a* and 6*b*. Hereby it is always possible to arrange a suspension portion quite close to such edge of the profile which is adjacent to the wall. The upper transverse web in the middle of the H is provided with a bulging part 20. This bulging part cooperates with the protrusions 12 so as to define the grooves 6*a* and 6*b*. The profile of FIG. 3 is particularly applicable for heavy reproductions, e.g. such reproductions which are provided with a protecting clear sheet or foil.

As far as side webs and end webs are concerned the profile of FIG. 3 is constructed in nearly the same manner as the profile of FIG. 2. To ensure clarity of FIG. 3 no cover rod is arranged on the profile. The cover rod which is arranged in connection with the profile of FIG. 3 is similar to the cover rod used in FIG. 2, but is only somewhat thicker. The cover rod is in tight contact with the shown profile.

Possibly clamp rods 21 and 22 may be arranged between the frame portions 1 and 2, said clamp rods having constant lengths. An example hereof appears from FIG. 5. The frame as shown has a constant height, but the width may be changed.

When the suspension device only comprises an upper and a lower frame portion - as shown in FIG. 1 - these portions will be arranged symmetrically, the concavity of the cover rod of the upper frame portion facing downwards, while said concavity of the lower frame portion facing upwards.

The clamp rods and cover rods shown in the figures may be made of different materials, preferably of plastics material.

When the suspension device of FIG. 1 is to be used, the width of the reproduction or poster 10 is first measured. Then the clamp rods 3 and 4 are drawn out of the cover rod 5 to such extent that the distance from the left end of the clamp rod 3 to the right end of the clamp rod 4 corresponds with the width of the reproduction or poster. Then the frame portion 2 is adjusted correspondingly. The reproduction or poster is then moved through the slot 14 and into the space between the end webs 9 (FIG. 2). Then the distance between the suspension portions 7 is adjusted so that it corresponds with the distance between the two nails which have previously been driven into the wall. Thereafter the reproduction or poster is suspended on the nail.

The above described embodiments of the suspension device only illustrate the invention. They do not limit the scope of invention.

I claim:

1. A suspension device for holding a platelike object which comprises a sleeve member, a pair of elongated clamp members disposed to receive and grip the object along an edge portion thereof, said clamp members being telescopically received in said sleeve member for longitudinal adjustment to accommodate the length of said object edge portion, said sleeve member having a longitudinally extending slot accommodating the extension therethrough of said object edge portion into said clamp members, said sleeve member being disposed for contact with the clamp members along at least two sets of opposing outside surfaces of each clamp member to maintain said clamp members in longitudinal alignment, said clamp members each having a longitudinally extending keyway and at least one hanger member received in said keyway and retained thereby, said hanger member being longitudinally adjustable in the keyway, said clamp members each having a pair of longitudinally extending webs which are positioned for mutual contact and can be spread apart to receive and engage between them the edge portion of the object to grip and thereby support same.

2. A suspension device according to claim 1 including a first sleeve member, a first pair of elongated clamp members, a second sleeve member, and a second pair of elongated clamp members, said first pair of clamp members being disposed to grip the object along a first edge portion thereof, said first sleeve member being disposed to telescopically receive said first pair of clamp members for adjustment thereof to the length of said first edge portion, said second pair of clamp members being disposed to grip the object along a second edge portion thereof oppositely spaced from said first edge portion, said second sleeve member being disposed to telescopically receive said second pair of clamp members for adjustment thereof to the length of said second edge portion.

3. A suspension device according to claim 2 including a third pair of clamp members each disposed to engage another corresponding edge portion of said object, and connected to corresponding first and second pair clamp members to define a frame encompassing the object.

4. A suspension device according to claim 1 wherein said clamp members each have a pair of spaced-apart side walls and at least one transversely extending web connecting said side walls.

5. A suspension device according to claim 1 wherein said clamp members each have longitudinally extending surfaces that define a pair of parallel keyways disposed to receive and engage corresponding surfaces of a hanger element.

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