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I. Title



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A Multi-Joint Mounting System Using Nutserts

II. Field of the Invention

The invention is applied in the manufacture and assembly of shelving equipment / storage equipment.

III. Background / Brief description of prior art

The existing systems presently used in the industry to assemble and mount shelving units of storage equipment are as follows:

- a) such shelves are slotted in the respective levels or inserted into a hollow pole (i.e. the slot system); or
- b) such shelves are held together by an "L-shaped" bracket which is fastened by using nuts and bolts (ie. the angle-iron system).

IV. Summary of Invention

The invention pertains to the assembly and mounting of various units of a shelving / storage equipment onto each other. The essential feature of the invention relates to the use of nuts serts to fasten / secure the units onto each other and onto the hollow shafts which act as the standing supporting poles of the equipment. This is also known as a multi-joining system since the use of nuts serts allows for fastening of the units at various points around the hollow shaft.

V. Detailed description

A detailed description of the complete assembly of the storage equipment is provided below for a better understanding of the invention. The invention however only relates to the mounting procedure of the shelves using nuts serts. The accompanying

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drawings illustrate the use of only 2 nutserts although the number of nutserts that may be used in the invention need not necessarily be limited to 2.

Assembly

View 1.0 provides a view of the complete assembly. Five panel platform acting on four standing supporting poles with five trimmed MDF boards placed on position. (View 1.0)

System

The System consists of hollow shafts of diameter 38.1mm each acting as the standing supporting poles on the four sides of the rack and fully welded platforms which consist of 1" x 1 1/2" hollow tubes welded strongly together with a design flat piece to form a flat panel. See View 2.0 and 2.1 which illustrates a plan view of the shaft assembly as well as a view of the welded platform.

Mounting

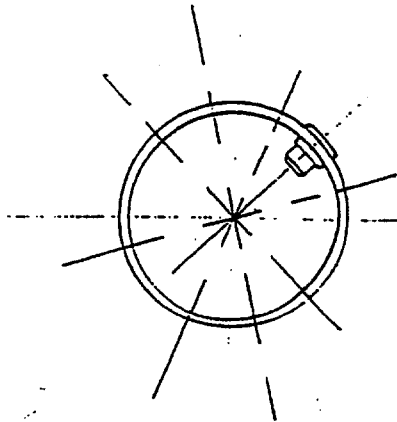
The whole system is connected together using M6 bolts , 2 pieces on each side to secure the platform onto the Nutsert and in which each individual nut is able to withstand a weight of 200kg.

See View 3.1 for detailed plan view of this mounting system. View 3.1 provides a cross-sectional view of the platforms which have already been fastened onto the standing poles.

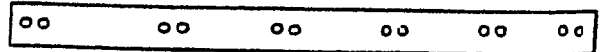
See also View 3.2 which illustrates the completed mounting, showing 2 bolts acting on a single point.

As the platforms are supported by round shafts at the four corners , it creates an opportunity for us to have the mounting and jointing of the platforms onto the shafts at any point all around each shaft. See Picture 1 which shows the different positions at which the nutserts may be mounted and secured. All height designations are carefully spaced using our precision machinery in our workshop and the weight is acting on a complete solid shaft with no jointing up to a height of 2.1m. See Picture 2.

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(Picture 1)



(Picture 2)

Surface Board

The surface boards being used in our system are solid 1/2" MDF boards carefully cut to size and the four corners being trimmed to fit into the radius of the standing supporting shaft. On top of that , the surface are spray painted with chemical paint work on both sides so as to create a long- lasting look.

See Views 4.0 & 4.1 for a picture of the MDF board carefully trimmed to radius on four corners and formed on all four sides . Returning to View 3.0 , you will see a front view of the complete mounted system with surface board and capped supporting standing pole, giving an elegant and versatile look .

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Claims

1. A mounting system using nuts serts to secure and fasten various units of a shelving /storage equipment onto each other and onto the hollow shaft.
2. A mounting system as claimed in claim 1 wherein the use of nuts serts allow for jointing of the units of the shelving/ storage equipment at various points around the shaft , that is, multi-jointing.