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NON-WELDED BASE FOR STANDS OR FURNITURE

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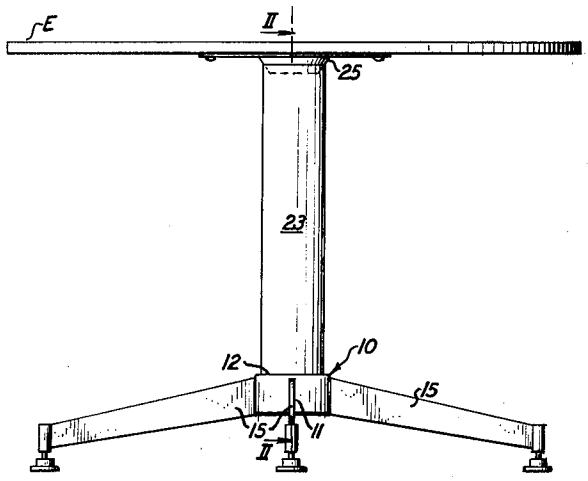

Fig. 1

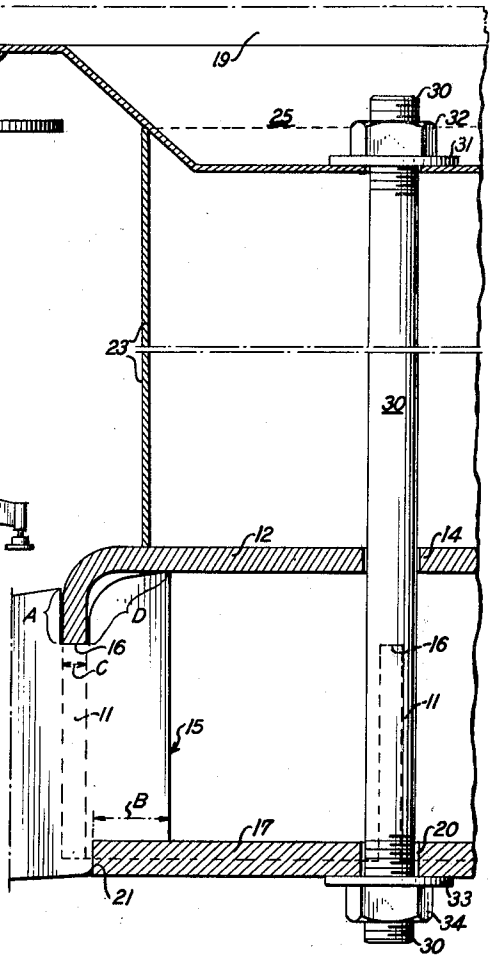

Fig. 2

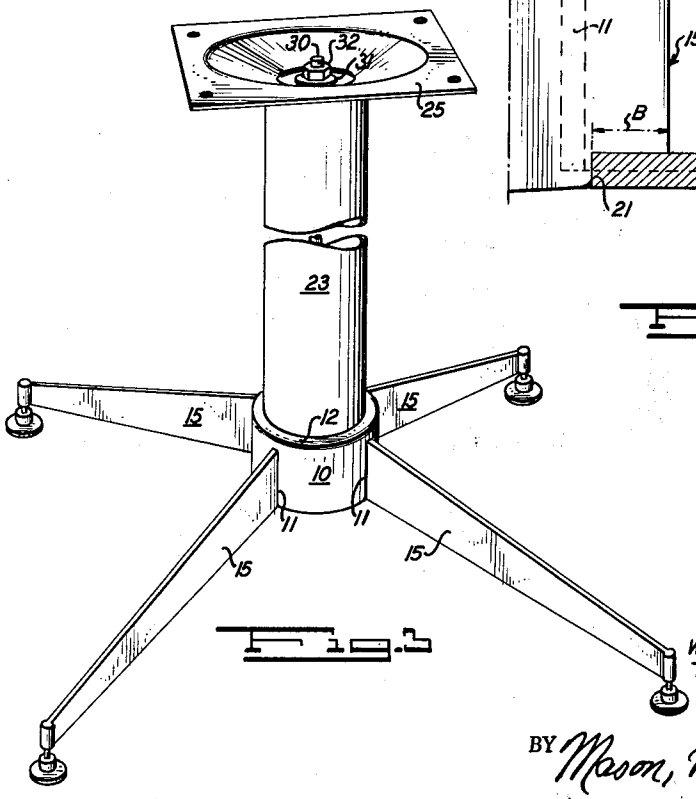

Fig. 3

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NON-WELDED BASE FOR STANDS OR FURNITURE

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This invention relates to a breakdown support stand for furniture—particularly tables. More specifically, it relates to a stand with a central column and a hub-like base having a plurality of legs extending outwardly thereform, which can be readily dismantled for shipment and storage.

In the construction of supporting means for furniture, particularly tables, provision must be made for a variety of forces which act upon the supporting means. The majority of such forces are downwardly directed brought about by the weight of the table top and whatever is placed upon it. For this reason, the most effective table construction from the strength standpoint is generally a plurality of more or less straight legs disposed around the table top at or somewhat inwardly from its periphery. However, this arrangement presents certain disadvantages in that the legs may also act as an obstruction or hinderance to chairs or the like which it is desired to place around the table. Accordingly, the pedestal or column type of support is popular, particularly where added flexibility is desired in grouping chairs around the table and where the use of straight legs is otherwise inconvenient. Pedestal stands of this type are exemplified in the prior art by U.S. Patent Nos. 210,188, 582,973 and 868,153. But, the pedestal type of stand has a disadvantage of requiring considerably more strength, comparatively speaking, in its various parts. Consequently, the pedestal stand is, for the same strength requirements, much heavier in its totality than comparable support means furnished by straight legs. It will thus be appreciated that steel, which has a high strength-weight ratio, is well suited for the construction of pedestal type stands. For a number of years, the spider type of steel casting has been popular for such stands. More recently, the general trend has been for a sheared plate leg which is welded to the pedestal column. However, both the former and more particularly the latter, which is less expensive, cause a shipping and inventory problem due to the space taken by the extended legs.

It is an object of this invention to provide a strong non-welded breakdown support stand which can be readily shipped, stored in warehouses, and assembled on site, and at the same time has approximately the same weight and strength as welded stands of the same type.

Another object of the present invention is to provide a stand of the type involved which can be easily stored in its dismantled condition by the user, and should the leg, hub member, column, etc. of a stand in use become damaged and require replacement, such replacement can be easily and economically provided by obtaining the part involved from the manufacturer rather than to require a rewelding job or an entirely new stand.

A still further object is to provide a simplified structure whereby the legs are secured firmly in place to the hub member, but without undue rigidity so that the legs will give slightly with heavy loads or strains.

Further objects and advantages will appear as the description progresses, reference being had to the accompanying drawings in which:

FIGURE 1 is a side elevation showing the support stand of the invention carrying a table top;

FIGURE 2 is a partial sectional view taken on lines II—II of FIGURE 1; and

FIGURE 3 is a perspective view of the support stand in accordance with the invention.

Referring now to the drawings, a steel hub member 10 has spaced around its periphery a plurality of notches 11 which extend upwardly from the open bottom of the hub member to a place thereon which is spaced from such member's top 12. It will be noted that the top 12 is an integral part of the hub member 10 and is provided with an opening 14 in its center. Received in the notches 11 and spaced around the hub member 10 are a plurality (four in this case) of steel legs 15. These legs are rectangular in cross-section, being fabricated from steel plates, and are each provided with an indentation 16 in their upper end. The inward end of each leg 15 is thus received within notch 11, the indentation 16 receiving a portion of the hub 10 above notch 11.

A horizontally disposed circular steel lock washer comprising disc 17 is received in the lower portion of the hub 10. Disc 17 has an aperture 20 in its center and its peripheral edges 21 are adjacent to and partially within the lower portion of the hub 10. A hollow cylindrical pedestal column 23 is disposed on the top 12 of the hub 10 and a table top brace member 25 is received on the top of the pedestal 23. A rod 30 extends from the brace member 25, through the pedestal 23, through the opening 14 in the top 12 of hub 10 and, finally, through the aperture 20 of the disc 17. The rod 30 is threaded on both ends and receives a retaining member on each end, comprising washers 31 and 33, and nuts 32 and 34. Additional washers may be employed with washers 31 and 33, if desired, and part or all of such washers may be composed of a deformable or elastic material. It will be appreciated that by tightening nuts 32 and 34, the aforesaid legs 15, and hub 10, pedestal 23 and brace member 25 are securely clamped together.

Referring particularly now to FIGURE 2, it will be noted that various surfaces of contact between the hub 10 together with its top 12, and the disc 17, on one hand, and with leg 15 on the other hand, have been delineated A, B, C and D. By tightening the nut 34, the areas B and C, and area D at its upper aspect are brought into tight gripping contact. When the stand is placed in its normal position as shown in FIGURE 3 the area A also represents a close contact between the leg 15 and the hub 10 due to the weight of the table and stand. The gripping areas B and D serve to assist in the maintenance of leg 15 in its desired horizontal and vertical positions. However, it will be appreciated that the horizontal alignment of the leg 15 is accomplished also by the sides of the slot 11. It is important to note that there is a considerable area of free space between the terminal end of leg 15 within the hub 10 and the rod 30. In this connection, it will be understood that the disc 17 is more easily deformed about a horizontal axis intersecting the longitudinal axis of rod 30, than the corresponding leg 15 to which said horizontal axis is perpendicular. If this free space did not exist and area B extended to orifice 20, there is a danger that the sudden occurrence of force on the leg 15 as might be caused, for example, by an individual roughly sitting on the table 19 at point E (FIGURE 1), would cause nut 32 or 34 to shear its threads and the table to collapse. By providing the contact of area B at only the periphery of disc 17, this danger is greatly reduced. Thus, should an individual sit roughly at point E, the leg 15 below point E will pivot slightly upward about the area C, causing B to diminish a small amount because of the outward movement of the corresponding portion of leg 15. Disc 17, having a certain inherent resilience, will bend slightly downward. The net effect is that the moving mass which produces the force at point E is deaccelerated over a larger distance and period of time than otherwise and the jolt which would be received by nuts 32 and

34 is considerably absorbed and reduced. Also, because under such circumstances, leg 15 may move relative to disc 17, the jolt is also reduced for the hub 12 and leg 15. If washers 31 and 33 are composed of a resilient material, the jolt is further absorbed. The truncated conical shape of brace member 25 also contributes to the shock absorbing qualities of the stand.

It will be appreciated that the same size of hub 10 may be used with various lengths of legs 15, a circumstance which further reduces inventory and manufacturing costs.

The foregoing detailed description has been given for clearness of understanding only and no unnecessary limitations should be understood therefrom, for modifications will be obvious to those skilled in the art.

We claim:

1. A knockdown base for a table which comprises: a steel hub member; said hub member being substantially cylindrical in shape with an open bottom and a plurality of notches spaced around it extending upwardly from the bottom along the sides to a place spaced from the top of said hub; said hub member having a top portion with an opening in the center; a horizontally disposed circular steel disc received in the lower portion of said hub; said hub having an aperture in its center and with edges adjacent to and within the lower portion of said hub; a hollow cylindrical pedestal column disposed on top of said hub; a table top brace received on the top of said pedestal; a rod; said rod being threaded on at least one end; retaining means associated with each end of said rod; at least one of said retaining means cooperating with the threads on said rod; a plurality of steel legs; each of said legs being of elongated rectangular cross-section; each of said legs being removably received at its inward end in one of said notches and extending normally from said hub member; there being an indentation in the upper edge of each of said legs which receives at least part of said hub member above said notch; said disc bearing upwardly against the lower portions of the ends of said legs within said hub member; the upper portions of the ends of said legs within said hub member bearing against the top portion of said hub; said rod extending from said brace through said column, the opening in said top portion, and the aperture in said disc; the ends of said legs within said hub member being spaced from said rod; said retaining means securely clamping the aforesaid disc, legs, hub, pedestal and brace together.

2. The invention according to claim 1 wherein said table top brace has at least in part the shape of a truncated cone, said part being received in the top of said pedestal.

3. In a knockdown base for stands for furniture: a steel hub member; said hub member having an open bottom and a plurality of notches spaced around and extending upwardly from the bottom to a place spaced from the top of said hub; said hub member having a top portion with an opening in the center; a horizontally disposed steel disc received in the lower portion of said hub; said disc having its edges adjacent to and within the lower portion of said hub; a plurality of steel legs; each of said legs being removably received at its inward end in one of said notches and extending normally from said hub member; there being an indentation in the upper edge of each of said legs which receives at least part of said hub member above said notch; said disc bearing upwardly against the lower portions of the ends of said legs within said hub member; the upper portions of the ends of said legs within said hub member bearing against the top portion of said hub; and clamping means clamping the aforesaid disc, legs and hub securely together, said clamping means comprising a rod extending through the center of said disc and a nut on the outer end thereof, said legs within said hub member being spaced from said rod.

4. The invention according to claim 3 wherein said hub member is substantially cylindrical in shape.

5. The invention according to claim 3 wherein said top portion and said hub portion are integral.

6. The invention according to claim 3 wherein said disc is circular.

7. The invention according to claim 3 wherein said hollow pedestal column is cylindrical.

8. The invention according to claim 3 wherein said steel legs are of an elongated rectangular cross-section.

9. The invention of claim 3 wherein said legs bear against the outer portion of said disc and said clamping means bears against the central portion of said disc.

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