Nov. 11, 1969 W. R. GOODRIDGE 3,477,671

SUPPORT STAND FIXTURE

Filed Nov. 22, 1967

FIG. 2

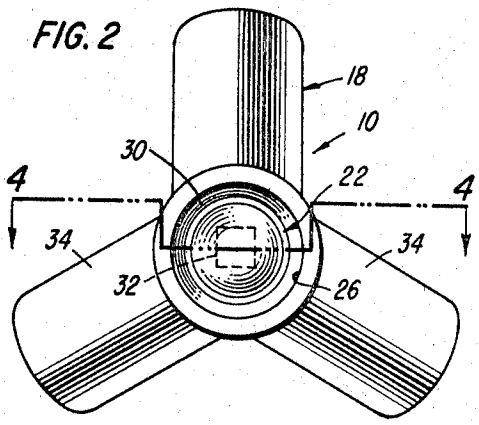


FIG. 3

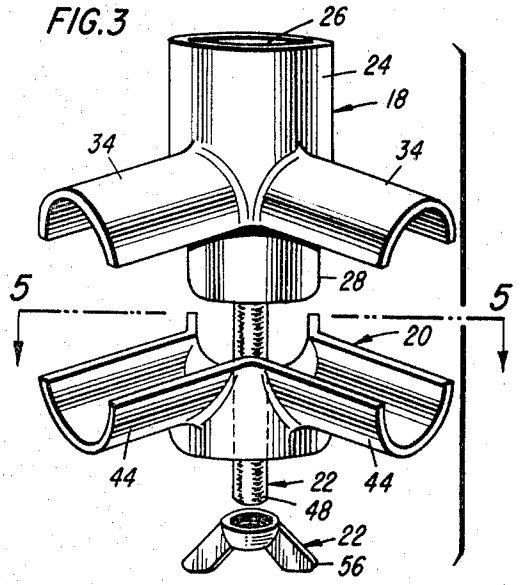


FIG. 1

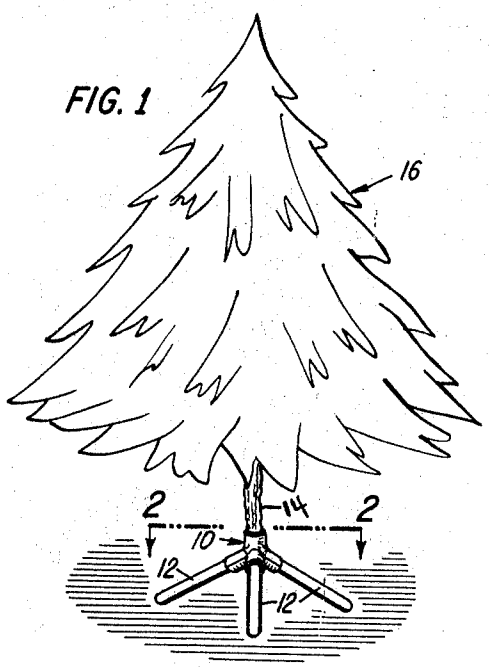


FIG. 4

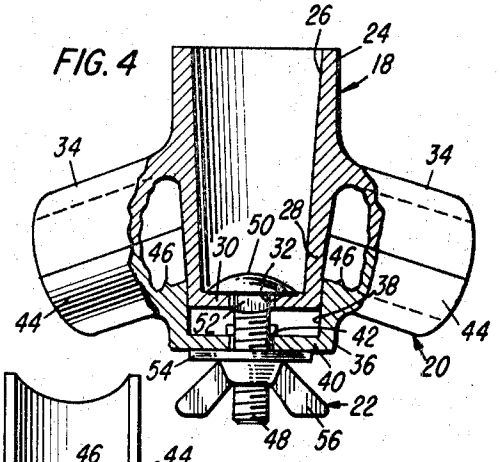
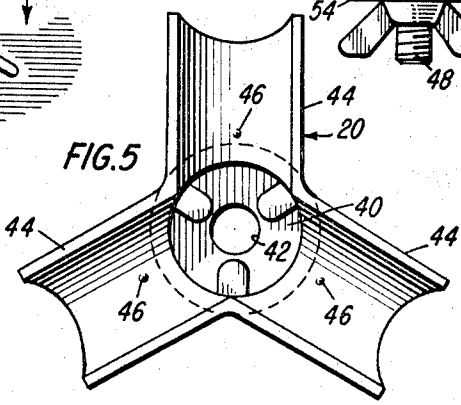


FIG. 5



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United States Patent Office 3,477,671
Patented Nov. 11, 1969

3,477,671

SUPPORT STAND FIXTURE

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Filed Nov. 22, 1967, Ser. No. 685,053
Int. Cl. A47g 33/12
U.S. Cl. 248—44 6 Claims

ABSTRACT OF THE DISCLOSURE

A fixture for a support stand for supporting Christmas tree trunks, flag staffs, display signs and the like and including a pair of clampingly engaged castings which include opposed leg-clamping sockets formed by overlying, radiating and downwardly directed semi-cylindrical sleeve-like portions and a central depending socket-and-sleeve arrangement tightened by an axially disposed wing nut-and-bolt assembly, and in which the upper casting includes an upwardly opening socket for removably receiving the lower end of a tree trunk, flag staff, etc.

During the Christmas season particularly, it is highly desirable to have a readily storable and stable support stand which is readily assembled and disassembled inasmuch as such stands are normally utilized, at the most, approximately one month of the year. On the other hand, support stands of a similar character are highly desirable for supporting flag staffs, parade markers, political convention display signs, etc.

For economy, wooden dowels are used in the construction of artificial Christmas tree support stand legs. The fixture of the present invention integrates these wooden elements. Since wooden dowels may vary in size and/or are subject to swelling or shrinkage, depending on climate changes, the present invention readily accommodates for such changes. Further, the socket for receiving the simulated tree trunk includes a slight taper which accommodates for different trunk diameters, but also affords a tight wedge action to positively retain the simulated trunk therein. Still further, with the variable-size, split clamp of the novel fixture, in the event the legs become lost during storage, new legs (differing from those originally accompanying the fixture) can be readily and satisfactorily produced.

Primary objects of the present invention are to provide a novel support stand fixture; to provide a novel clamping arrangement for a support stand fixture and more particularly in which the clamping arrangement comprises angular, overlying clamping sleeves radiating downwardly from a socket which includes a clamp shaft-and-sleeve arrangement cooperating with a force transmitting assembly.

These together with other and more specific objects and advantages of the invention will become apparent from the following description when taken in conjunction with the accompanying drawings, wherein:

FIG. 1 is a perspective view, on a reduced scale, illustrating one use of the novel stand fixture;

FIG. 2 is a top plan view of the fixture at substantially full scale;

FIG. 3 is an exploded perspective view of the fixture;

FIG. 4 is a vertical section taken substantially on the plane of line 4—4 of FIG. 2; and

FIG. 5 is a top plan view of the lower casting of the fixture looking substantially from the plane of line 5—5 of FIG. 3.

Referring to the drawing, and first considering FIG. 1, the support stand fixture is indicated generally at **10** and clampingly receives therein a plurality of downwardly

radiating, support legs **12**; preferably but not necessarily three legs as shown disposed at 120° intervals.

The stand fixture **10** receives therein the lower end of a shaft, staff or tree trunk **14** of an artificial Christmas tree **16**, for example. The legs **12** extend angularly from the stand fixture **10** at a relatively shallow angle, i.e. 30°, for example, in order to provide a relatively stable base for the Christmas tree **16** which has a relatively high center of gravity making it relatively unstable since a considerable portion of the tree weight is disposed outwardly and above the stand. Although a particular angular relation of the legs is mentioned above, this is merely by way of example and not by way of limitation.

The stand fixture **10** comprises upper and lower cooperating clamp elements **18** and **20**, respectively, which are retained in clamped relationship by a suitable force transmitting means **22**. The cooperating clamping elements **18** and **20** preferably comprise castings produced from a suitable metal, plastic, etc.

The upper clamping element **18** comprises a central hub or socket portion **24** including an upwardly opening, slightly upwardly diverging socket **26** which in a sense jammingly receives the staff, shaft, etc. being supported therein. The socket **24** includes a depending shaft portion **28** which is reduced in diameter with respect to the upper portion of the socket **24**. The shaft portion **28** includes a transverse bottom wall **30** which has extending therethrough a preferably rectangular aperture **32**. Integral with the socket **24** and radiating downwardly and angularly therefrom are equidistantly spaced, semi-cylindrical sleeve portions **34** which open downwardly toward shaft portion **28** and are disposed in spaced relation above the lower end thereof.

The lower clamping element **20** includes a lower cylindrical hub or sleeve **36** having an upwardly opening, fragmentary bore portion **38** complementary to and reciprocably received on the lower end of the shaft portion **28** of the upper clamping element **18**, and includes a transverse bottom wall **40** having a central aperture **42** aligned with the square aperture portion **32** of the bottom wall **30** of the upper clamping element **18**. Communicating with the lower portion **38** of the lower clamping element **20** are circumferentially disposed, radially extending downwardly angled, semi-cylindrical sleeve portions **44** which open upwardly toward the downwardly opening sleeve portions **34** of the clamp element **18** and which are complementary therewith to form substantially cylindrical leg-receiving sockets. Preferably, but not necessarily, the semi-cylindrical sleeve elements **44** include upwardly extending, friction increasing prongs **46** which will penetrate the outer surface of the legs **12** disposed in the cylindrical socket formed between the cooperating elements **34** and **44**.

The force transmitting assembly **22**, in this exemplary embodiment, comprises a wing nut-and-bolt assembly including a threaded shank **48** integral with a domed head **50** having formed therebeneath a rectangular enlargement **52** received in the rectangular aperture **32** in the bottom wall **30** of the upper clamping element **18**. As clearly seen in FIG. 4, for example, the bolt is received in the bore or socket **26** and rests on the upper surface of the bottom wall **30** of the clamping element **18**. The threaded shank **48** projects through the aperture **42** in the bottom wall **40** of the lower clamping element **20**. A suitable washer element **54** engages the undersurface of the bottom wall **40** of the clamping element **20** and a manually-operable wing nut **56** is engaged on the threaded shank **48** accordingly drawing the semi-cylindrical sleeve portions **34** and **44** together to frictionally and grippingly engage terminal ends of the leg elements **12**.

It will be obvious to those skilled in the art that various

changes may be made without departing from the scope of the invention and that the invention is not to be considered limited to what is shown in the drawings and described in the specification.

What is claimed is:

1. A support stand fixture comprising:

upper and lower clamp elements; and force transmitting means operatively connected between said clamp elements,

said upper clamp element including a central socket having a lower portion, and

a plurality of downwardly angled and downwardly opening sleeve elements,

said lower clamp element including a central portion received on the lower portion of the sleeve portion of said upper clamp element,

said lower clamp element including downwardly angled, upwardly opening sleeve elements forming with said sleeve elements of said upper clamp element downwardly angled sockets for frictionally receiving and clamping leg elements therein, when urged toward each other by said force transmitting means,

said central socket including a lower hollow shaft,

said sleeve elements of said upper clamp element being spaced above an opening toward said hollow shaft,

said central portion of said lower clamp element comprising a bore portion telescopically received on said hollow shaft,

said shaft and bore portions including vertically spaced, apertured bottom wall portions,

said force transmitting means comprising a nut-and-bolt assembly interconnecting said wall portions.

2. The structure as claimed in claim 1 in which said central socket includes an upwardly opening and diverging bore portion for receiving the terminal end of a rod, shaft or tree trunk therein.

3. The structure as claimed in claim 1 in which the aperture in the bottom wall of said upper clamp element is polygonal, said nut-and-bolt assembly includes a bolt having a polygonal portion complementary to said polygonal aperture and restraining said bolt against rotation.

4. The structure as claimed in claim 1 in which said sleeve elements are generally semi-cylindrical.

5. The structure as claimed in claim 1 in which certain of said sleeve elements include portions for increasing the clamped engagement on a leg element disposed between said sleeve elements.

6. The structure as claimed in claim 5 in which said last mentioned portions comprise a sharpened prong.

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U.S. Cl. X.R.

248—188.7