United States Patent [19]

Parsons et al.

[11] **3,855,718**

[45] **Dec. 24, 1974**

[54] **ADJUSTABLE MOUNTING FOR WORK-OBJECTS AND THE LIKE**

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[22] Filed: **Nov. 30, 1973**

[21] Appl. No.: **420,457**

[52] **U.S. Cl.** **38/102.2**
[51] **Int. Cl.** **D05c 1/04**
[58] **Field of Search** 38/102.2; 285/18, 260, 285/420; 160/380

[56] **References Cited**

UNITED STATES PATENTS

966,929	8/1910	Lang	38/102.2
1,357,737	11/1920	Solaini	38/102.2

FOREIGN PATENTS OR APPLICATIONS

412,998	3/1946	Italy	38/102.2
467,574	12/1951	Italy	38/102.2

Primary Examiner—Patrick D. Lawson

[57] **ABSTRACT**

A spherical element is held between a pair of generally flat and contacting plates one of which has a recess for receiving a portion of the spherical element, the other of said plates having a round aperture of smaller diameter than the diameter of said spherical element and in which a portion of said spherical element seats.

A screw-threaded shank is connected to the last-mentioned portion of said spherical element and extends through and projects from the round aperture referred to hereinbefore.

A nut screw-threadedly engages the shank.

A brace is secured to said screw-threaded shank by said nut; and

A work supporting member carried by said brace.

4 Claims, 3 Drawing Figures

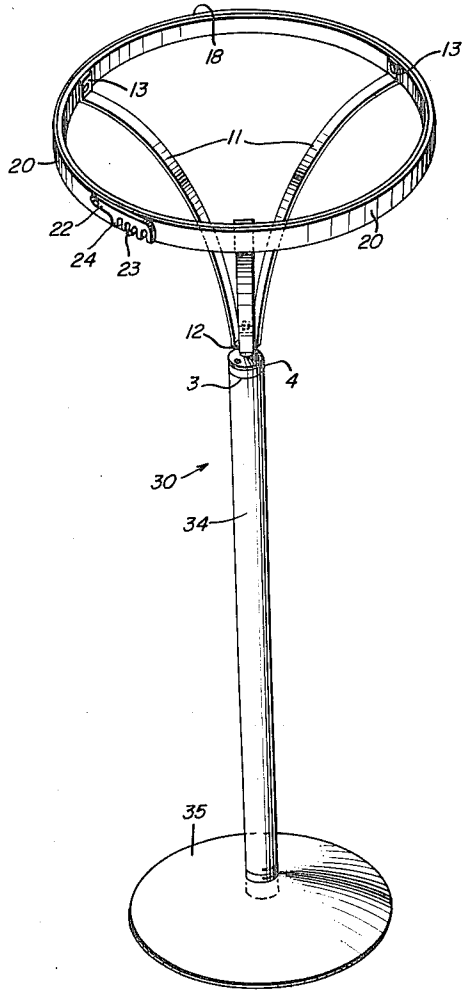
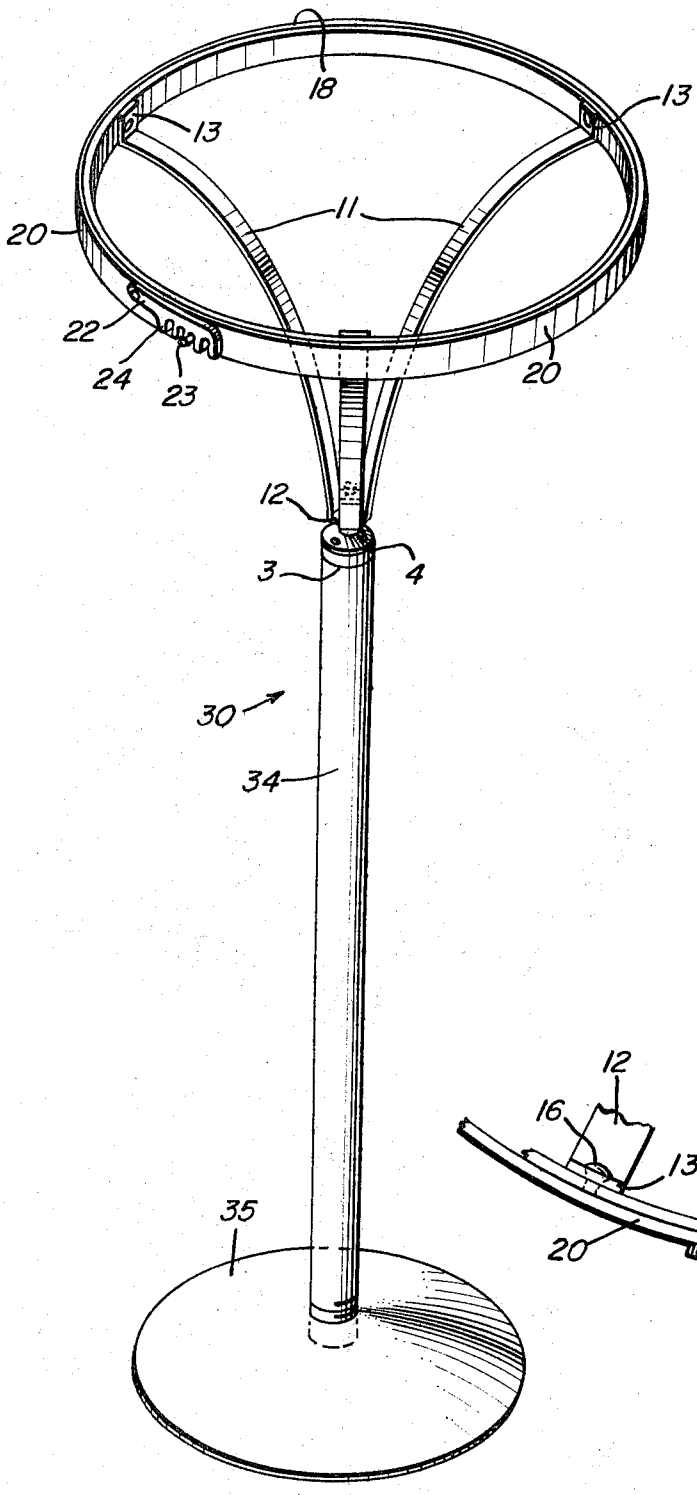


Fig. 1



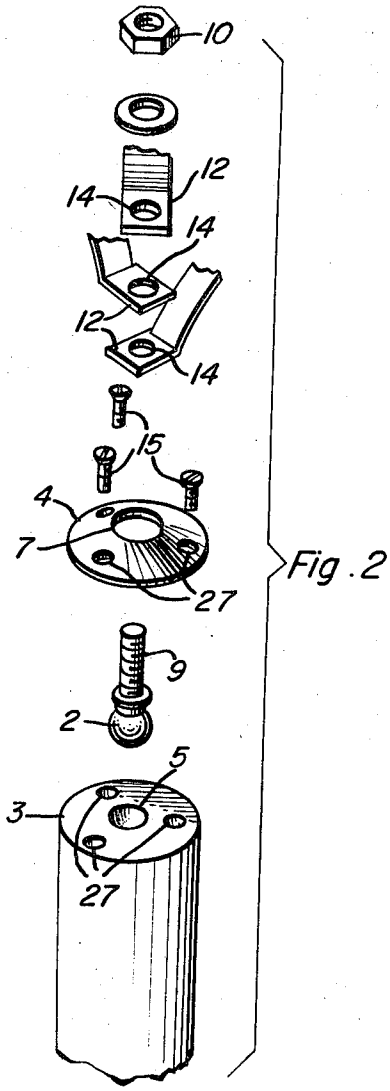
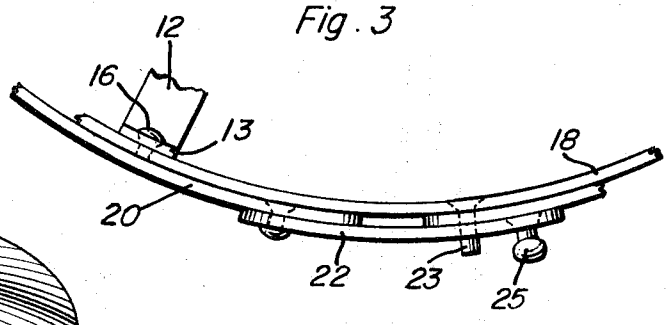


Fig. 2

Fig. 3



ADJUSTABLE MOUNTING FOR WORK-OBJECTS AND THE LIKE

The present invention relates to adjustable mountings for various purposes, such as to support work-objects in the manner of a stand or easel, as in the case of a quilting frame, for example.

It is among the objects of the invention to provide an adjustable mounting of the type described which is of improved construction and provides numerous advantages over the devices of the known prior art.

Another object is the provision of an adjustable mounting which may be freely manipulated to present the work-piece to the worker at various angles of accessibility, including both front and rear of the work-object.

Another object is to provide an adjustable mounting for work-pieces and the like which is highly efficient for its intended purpose, durable in service, and simple and inexpensive to manufacture.

The foregoing and other objects and advantages of the invention will become more readily understood from the following description and annexed drawings, wherein like reference characters designate like parts.

In said drawings:

FIG. 1 is an elevational view of the device of the invention in a position in which it is ready for use, and shown as comprising a vertical standard on which it is mounted.

FIG. 2 is an exploded view illustrating the various parts in the order of their superposition, the same fragmentarily illustrating the lower ends of the elements of the supporting brace.

FIG. 3 is a fragmentary plan view which illustrates the upper end of one of the supporting braces and the inner and outer elements of the work-supporting frame.

Referring more particularly to the drawings, the numeral 2 designates a sphere or ball of suitable material, such as simple, or plain carbon, steel, which is adapted for disposal between a pair of relatively flat and contacting plates 3 and 4 which may, if desired, be formed of the same material.

As will be observed, one of the relatively flat plates 3 is provided with a recess 5 which is of such size and shape as will receive a portion of the sphere or ball 2 and serve as a retainer therefor. This recess 5 may be provided by a round concavity or dimple, or an aperture which is of considerably lesser diameter than the diameter of the sphere 2.

The other relatively flat, and contacting plate 4, is provided with a relatively large round aperture 7 which is of a diameter that approaches that of, but is slightly less than, the diameter of the sphere, whereby a substantial portion of the sphere protrudes therefrom; and to this portion of the sphere 2 there is attached a screw-threaded shank 9.

According to the foregoing construction and arrangement, the axis of the screw-threaded shank 9 may assume a wide variety of angles with respect to the axis of the relatively large round aperture 7 in the relatively flat plate 4.

The screw-threaded shank 9 carries a nut 10 in order that the stud and nut may securely hold one end of a brace which is attached to the work-object or work-piece.

In the illustrative embodiment of the invention the brace is shown as comprising three curvilinear and upwardly extending strips 11 of steel or other suitable material which are arranged in equally spaced relationship, i.e. 120° apart.

Each of the three braces 11 is provided at its lower and upper ends with a short flat angular lip or extension, as shown at 12 and 13 respectively; and each of the lower lips or extensions 12 is provided with a round aperture 14 for receiving the screw-threaded shank 9.

The upper lips or short flat angular extensions 13 on the braces 11 are shown as attached by screws 15 extending through the holes 14 to the interior surface of a ring 18 which forms part of a work-holder or work-support.

This work-holder comprising the ring 18 may include an outer encompassing ring 20 in the manner of a frame for receiving and holding various materials for various operations to be performed thereon, for example a quilting frame.

The outer encompassing ring 20 of the circular frames 18–20 is divided, and provided with an adjustable closure, whereby the outer ring may be adjusted to conform to the thickness of the flexible material which is drawn over the inner frame 18.

This adjusting means may comprise a lever 22 which is pivotally connected to the outer ring 20 adjacent the line of division and extends over the other side of the division line to engage an outwardly extending pin 23 which is secured to the ring 20 on the other side of the division line. The under edge of the pivotally mounted lever is provided with a series of slots 24 within which the pin 23 may be received; and the manipulation of the pivoted lever 22 is enhanced by providing it with an outwardly extending knob or peg 25.

It will be understood that various other kinds of work-support may be substituted for the inner and outer circular rings 18–20, and that various other braces may be substituted for the three equally spaced curvilinear strips 11.

Each of the generally flat and contacting plates 3 and 4 is provided with a series of apertures 27 which are in alignment with each other; and screws 29 which are disposed to extend therethrough attach the generally flat plates to a support 30, as well as clamp the said plates together with adequate force to prevent the undesirable slipping of the spherical element 2 with respect thereto.

The support 30 is shown as comprising a vertically disposed pole 34 which is mounted on a base plate 35.

As hereinbefore mentioned the mounting provided by the generally flat parallel plates 3 and 4 and the intermediately disposed spherical element 2 with its screw-threaded shank 9 etc. is sufficiently firm for its intended purpose, while at the same time easily adjustable over a wide area for ready access to both front and rear of the work-piece.

Having thus described our invention what we claim as new and desire to secure by Letters Patent is:

1. A freely adjustable supporting assembly comprising

a. a spherical element

b. a pair of substantially flat and contacting plates adapted to receive said spherical element therebetween;

c. said plates being held together and attached to a support;

d. one of said substantially flat plates having a round recess to receive a portion of said spherical element;

e. the other of said plates having a round aperture of larger diameter than that of the aforementioned round recess and a smaller diameter than that of said spherical element;

f. a portion of said spherical element being adapted to extend through said round aperture;

g. a screw-threaded shank connected to the last-mentioned portion of said spherical element;

h. a nut screw-threadedly engaging said shank;

i. a brace secured to said screw-threaded shank by said nut; and

j. a work-supporting member carried by said brace.

2. The combination of claim **1** wherein the work-supporting member comprises a pair of internesting rings.

3. The combination of claim **1** wherein the brace comprises a series of upwardly-extending evenly spaced strip-like members.

4. The combination of claim **1** wherein the brace comprises a series of evenly spaced upwardly-extending strip-like members and said work-supporting member comprises a pair of internesting rings, the inner of said internesting rings being connected to the upper ends of said evenly spaced upwardly-extending strip-like members.

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