April 25, 1950 M. WEINBERGER 2,505,075

ADJUSTABLE ARTICLE STAND

Filed Aug. 9, 1947

Fig. 1.

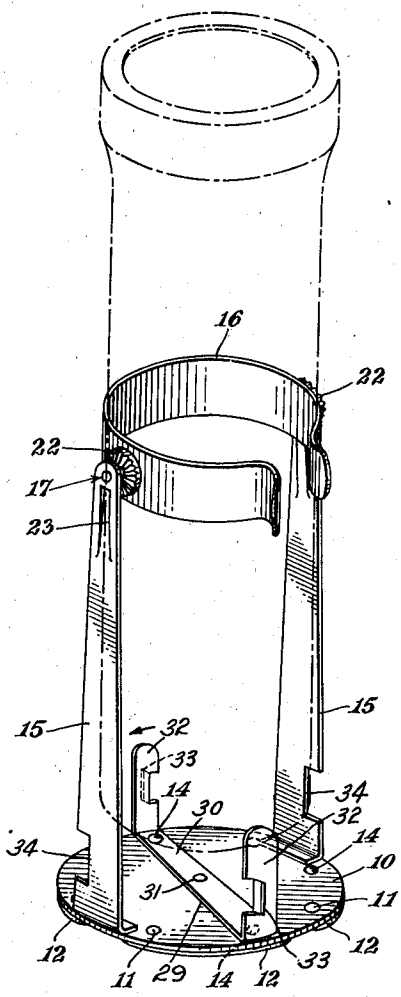


Fig. 2.

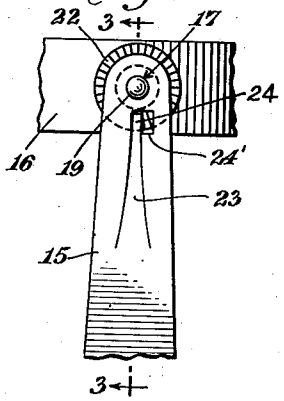


Fig. 3.

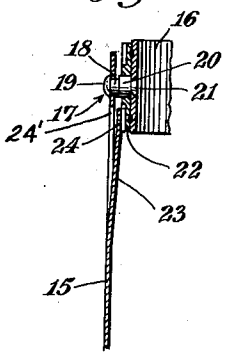


Fig. 4.

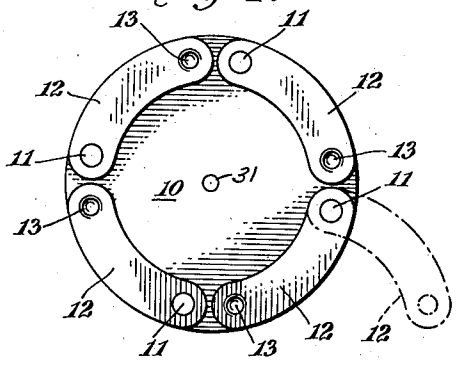


Fig. 5.

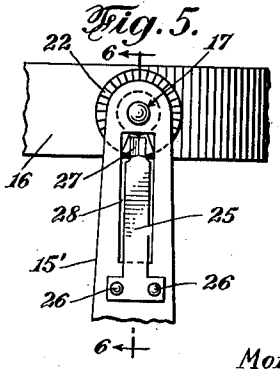
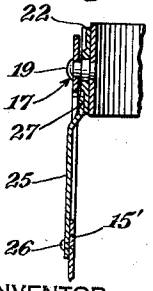


Fig. 6.



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ADJUSTABLE ARTICLE STAND

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6 Claims. (Cl. 248—121)

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This invention relates to article stands of the adjustable type adapted to hold articles and facilitate their adjustment to any desired position.

Article holders of the class indicated are well-known in the art, but in most instances are relatively expensive, impractical and bulky, which latter disadvantage limits their usefulness, especially when considering carrying the device in one's pocket or tool kit.

The present invention has for its prime object to provide an automatically adjustable article stand of an inexpensive, simple and effective construction, and which stand enlarges the bulk of the article for which it is intended by but a small margin so that an article held in the stand may be carried or handled with as little difficulty as the article itself without the stand.

Another object of this invention is to provide an automatically adjustable article stand which is equipped with an expandable base, and wherein all stand parts, including the expandable base and the structure extending therefrom, so closely approximate the largest body dimensions, such as the perimeter, of the article, that the bulk of the article together with the stand will not materially exceed the bulk of the article itself.

Another object of this invention is to provide a stand employing an expandable base adapted to support an adjustable article holder, which latter may be swung to any desired position in respect to the base, and wherein means are provided for keeping the article held by the holder at any desired adjusted position.

The foregoing and still further objects and additional advantages of the device will become more fully apparent from the ensuing description, in conjunction with the accompanying drawings, which latter, although disclosing but two of the many possible forms of the device, are by no means intended to limit the invention to the actual showing, and wherein:

Fig. 1 is a perspective view of the stand in accordance with the present invention;

Fig. 2 is a fragmental side elevation of the article holder, one of its supports and one form of the detent means for keeping the holder in adjusted position;

Fig. 3 is a section taken on line 3—3 through Fig. 2;

Fig. 4 is a bottom view of the device disclosing the expandable base;

Fig. 5 is a similar view to that shown in Fig. 2 with a modified detent arrangement; and

Fig. 6 is a section taken on line 6—6 of Fig. 5.

Referring now more specifically to the figures,

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numeral 10 denotes a circular, substantially flat base with which are pivotally associated at spaced, peripheral points 11 a number of arcuated extension elements 12, which are normally held in their retracted position within the periphery of the base, but which may be swung outwardly in radial direction, as indicated in broken lines in Fig. 4. At the free end of the elements are preferably arranged locking means 13, such as pressed-out elevations, while in the base body are provided corresponding depressions or sockets 14 for the reception of elevations 13 when elements 12 are in their retracted position.

Extending from two oppositely disposed peripheral points of base 10, and fixedly secured thereto, are symmetrically arranged brackets 15, which preferably reduce in width towards their free ends, and between which ends is pivotally and adjustably supported a resilient article holder 16. The latter constitutes a self-contained clip, set to normally assume a fixed, closing position, that is a position at which its ends approximate or abut with one another.

Referring to Figs. 2 and 3, these detail illustrations disclose the pivotal mounting of clip 16 in brackets 15. A pin 17 passes through an aperture at the end of bracket 15. The portion of the pin engaging that aperture is reduced at 18. The outer end of the pin forms a head 19, while the interior portion of the pin is enlarged to a shoulder 20. Head 19 prevents an inward movement of the pin and shoulder 20 prevents an outward movement thereof. Shoulder 20 has an extension 21 which is fixedly secured in clip 16. Shoulder 20 passes through a detent member 22 in the form of a ratchet wheel, which latter is permanently secured to the body of clip 16.

Below the aperture for pin 17 there is stamped from the body of bracket 15 a detent element 23 in the form of a spring, the upper end of which is bent outwardly and constitutes a ratchet 24 in operative engagement with ratchet wheel 22. Spring 23 and ratchet 24 operate in the aperture 24' produced by striking out these two instrumentalities from the material of bracket 15.

A structure similar to that described in connection with Figs. 2 and 3 is illustrated in Figs. 5 and 6, with the exception that instead of the detent element 23 struck from the body of the bracket, there is shown an independent detent element 25 which takes the form of a spring structure substantially in the shape of an inverted letter T. The bar of the T is riveted or otherwise fastened at 26 to bracket 15'. The upper end of the detent element terminates in

a ratchet tooth 27 adapted for engagement with the teeth of ratchet wheel 22. Ratchet element 25 operates within a slot 28 struck out from bracket 15'.

In order to prevent the end of an article to be held by the device against sidewise movement between brackets 15, there is associated with the base an adjustable and retractable retainer 29. The latter comprises a clip formation consisting of a strip 30 which is pivotally secured at 31 to the center of base 10, and from which strip extend upwardly two flanges 32 provided with outwardly extending stops 33 adapted to register with edge recesses 34 provided in brackets 15. This retainer is adapted to engage the end of an article placed in the device and to prevent the latter from swinging between the brackets. For this purpose the retainer is placed in the position shown in the figure. When the article is to be removed from the device the retainer may be swung in the direction indicated by the arrow to its inoperative position at which stops 33 will register with recess 34 of brackets 15. The retainer is intended to be used only then when the article to be held by the device is to be kept in upright position in the manner seen in Fig. 1, for instance, when the article and the device are to be carried in a pocket or in a tool box. When, however, the article is to be positioned at an angle in respect to the brackets, the retainer is placed into inoperative position to permit such adjustment.

Operation

Clip 16, made of highly resilient material, is set to retain a permanent shape, preferably corresponding to the shape of the article which is to be held by or accommodated within the clip, such as, for instance, a flash-light, indicated in broken lines in Fig. 1. The resiliency of clip 16 has a tendency of urging ratchet wheels 22 in outward direction, that is towards brackets 15, so that shoulders 20 of pins 17 will bear against the interior faces of the brackets. Ratchet elements 23 and 25 are designed to urge their respective ratchets 24 and 27 into engagement with ratchet wheels 22. When the article held in the clip is to be tilted from say the vertical position, indicated in Fig. 1, to any other position, the cooperation between ratchet wheels 22 and detent elements 23 or 25 will retain the article in such tilted position.

Elements 12 for enlarging the normal supporting surface of the base may be swung outwardly, as explained in connection with Fig. 4, when it seems evident that the normal supporting surface of the base alone would be insufficient to keep the stand in upright position.

It is the intention of the present invention to so construct the base as well as the rest of the structural arrangement of the stand that its bulk will increase the bulk of the article held in the stand so little, that for practical purposes such increase will be negligible.

While the foregoing describes but two specific structures disclosed in the appended drawings, changes and improvements in the device may be incorporated without departing from the principle and scope of the present invention as claimed below.

I claim:

1. In a device of the class indicated, a substantially flat, circular base, an adjustably mounted resilient article holder spaced from the base and having means held under tension by the resiliency of the holder body for facilitating adjustment and retention of the holder at any desired position relative to the base, a pair of resilient brackets fixedly secured at one of their ends to and extending from two diametrically opposite peripheral points of the base and supporting said article holder between their free ends, said means for facilitating adjustment of the holder body comprising ratchet wheels attached at two opposite exterior points to said holder body, and resiliently mounted ratchets extending from said brackets into operative engagement with said ratchet wheels.

2. In a device of the class indicated, a substantially circular and flat base, a pair of symmetrically arranged brackets extending from two opposite peripheral points of the base, a resilient article holder pivotally associated with said brackets to render it adjustable relative to the latter, ratchet wheels and ratchets arranged at the free ends of the brackets and forming automatic detent means for retaining the article holder at any position to which it is adjusted, and arcuated, retractable means for enlarging the supporting surface of the base, the entire structure of the device, including said base, with its surface enlarging means in retracted position, said article holder and said brackets being adapted to closely approximate the largest perimeter of an article to be held for reducing to a minimum the bulk of the device.

3. In a device as per claim 2, said arcuated, retractable means for enlarging the supporting surface of the base comprising a plurality of resilient elements pivotally secured to the base at spaced, peripheral points thereof, and being adapted to be swung outwardly beyond the periphery of the base, and cooperating retention means provided in the base and at the free ends of said elements for holding the latter in retracted position beneath and within the outer periphery of the base.

4. In a device of the class indicated, a base, an adjustably mounted resilient article holder spaced from the base and having means held under tension by the resiliency of the holder body for facilitating adjustment and retention of the holder at any desired position relative to the base, and article retention means operatively associated with the base for preventing movement of the end of an article resting against the base of the device.

5. In an adjustable article stand, a substantially flat, circular, radially expandable base, a pair of upwardly tapering brackets fixedly secured to and extending from opposite points of the base periphery, an article holder pivoted at and between the free ends of the brackets and being adapted for adjustment in respect to said brackets, said article holder comprising a self-contained resilient clip; cooperating detent means for keeping the holder in any desired adjusted position, said detent means comprising two oppositely disposed ratchet wheels fixedly secured to said holder and having as their axes the latter's pivotal points, and two corresponding resilient ratchet elements extending from the brackets toward and operatively engaging said ratchet wheels of the holder, and a retainer for the lower end of an article to be held in the stand, said retainer being operatively and adjustably associated with the base and having stop means for engagement with said brackets.

6. In an adjustable article stand, an expandable base, a pair of upwardly tapering brackets ex-

tending from opposite points of the base periphery, an article holder pivoted at and between the free ends of the brackets and being adapted for adjustment in respect to said brackets, said article holder comprising a self-contained resilient clip; cooperating detent means for keeping the holder in any desired adjusted position, said detent means comprising two oppositely disposed detent members fixedly secured to said holder about the latter's pivotal points, and two corresponding resilient detent elements extending from the brackets toward and operatively engaging said detent elements of the holder, a retractable retainer for the lower end of an article to be held in the stand, said retainer comprising a member centrally pivoted at the base and having end extensions for engaging the sides of such article, said extensions being provided with stop means adapted for engagement with said brackets for limiting the movement of the retainer, said brackets having

recesses for receiving said stop means when the retainer is in its retracted position, said retainer being operative within the space limited by the brackets.

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