Nov. 17, 1931. C. E. PEDERSEN 1,832,239

SUSPENSION DEVICE

Filed Sept. 29, 1930

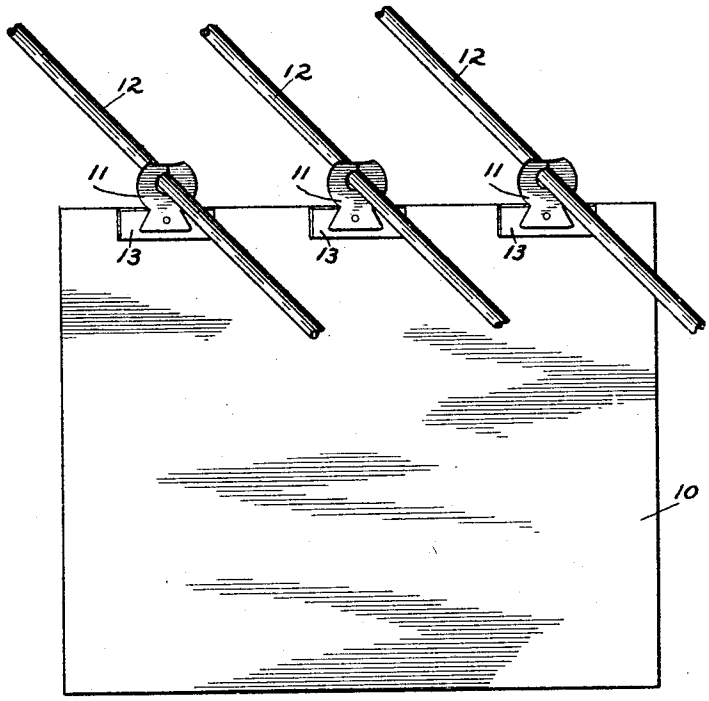


Fig. 1.

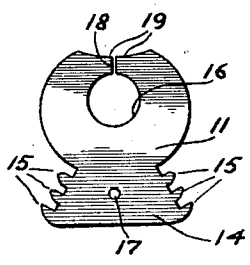


Fig. 2.

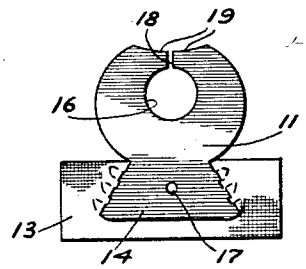


Fig. 3.

INVENTOR.
CARL E. PEDERSEN.
BY Wm. H. Atkinson
ATTORNEYS.

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UNITED STATES PATENT OFFICE

CARL E. PEDERSEN, OF SAN FRANCISCO, CALIFORNIA

SUSPENSION DEVICE

Application filed September 29, 1930. Serial No. 485,040.

My invention relates to an improvement in filing devices and more particularly to a detachable tab or device for supporting and filing away maps, charts, drawings, tracings, blue prints and in fact any sheet material in a convenient manner.

An object of my invention is to provide a new, novel and inexpensive removable tab for supporting sheet like materials upon a rod or like support.

Another object of my invention is to provide in a tab of the above character a novel means for securing the tab to the article to be supported.

A further object of my invention is to provide a new and improved feature in a tab of the above character which will facilitate the engaging of the tab with its support and otherwise render the tab more effective.

Other objects and advantages of my invention will be in part pointed out and in part evident to those skilled in the art from the following description and the drawing wherein I have shown by way of illustration and not of limitation a preferred embodiment of my device.

In the art to which my invention pertains there have been several attempts made to provide a simple supporting means of this character. One good example of a prior art device is illustrated and described in United States Patent to Jesse W. Fontaine, Number 1,687,859. In this patent there is disclosed a celluloid member through which a rod opening is provided and over which a piece of adhesive tape is disposed so that the ends of the adhesive tape may be secured upon opposite sides of the supported article. This device has found some favor in the trade but is open to the objection that when once applied to the article it cannot be removed and used a second time.

By my invention I provide a supporting tab which is of such construction that it can be used indefinitely. In addition to the above, my improved tab also embodies features to be hereinafter pointed out in detail which render it easily attachable and removable from the supported article and the supporting rod by a convenient and simple operation and in such a manner that the article supported will not be subjected to any knife edge support, as is the case in a number of prior art devices wherein the tongues are projected through the article in a vertical line.

For a better understanding of my invention reference should be had to the accompanying drawings wherein like numerals refer to like parts throughout the several views.

In the drawings:

Figure 1 is a perspective view showing a single sheet article suspended upon three parallel supporting rods,

Figure 2 is a front elevation of the tab, and

Figure 3 is a view similar to Figure 2 showing my improved tab provided with an adhesive sticker.

In Figure 1 of the drawings I show a single sheet of material suspended upon three parallel extending rods of a filing rack of the type disclosed in my copending application Serial No. 219,204, filed September 13, 1927. As here illustrated, the supported article designated by the numeral 10 is provided along its upper edge with three of my improved suspension devices 11. The suspension devices or tabs 11 are shown as clipped over three parallel suspension rods 12. The tabs 11 are here shown as attached to a sticker 13 which is applied directly to the surface of the article 10 by any suitable adhesive. In practice the tabs 11 will be mounted upon the article 10 in properly spaced relation so that when once applied they can be easily pulled from and replaced upon the rods 12 in a convenient manner.

A suspension tab which will give the greatest amount of filing capacity must be very thin and therefore it is desirable that the tab be made of some strong material. A preferred material which possesses this thinness without a sacrifice of strength or flexibility is spring steel. While this material is ideally suited for this purpose it cannot be used, because of a tendency to cut its way through any material suspended thereupon, unless some special arrangement and form of attaching means is provided.

As shown in Figure 2, I overcome the above difficulty by providing the lower portion of my tab with a plurality of tongues which are so arranged that the material suspended thereupon will not be subjected to a single straight line knife edge suspension. As shown in this figure of the drawings the tab 11 is illustrated as having a downwardly extending inverted keystone or pyramidally shaped portion 14 upon each side of which there is provided three outwardly projecting tongues 15. The slope of the sides of the lower portion 14 is such that the tongues 15 will be disposed in a line substantially radial with an aperture 16 in the upper portion and they are so spaced that their points of engagement with the article to be suspended will lie in a line at an angle to the vertical and horizontal dimensions of the sheet material. In addition to the tongues 15 the lower portion 14 is shown as provided with a hole 17 through which an ordinary paper fastener may be inserted when it is desired to suspend additional sheets of material on a single set of suspension tabs. The tab 11 is also provided with an upper portion in which there is formed the aperture 16 to which an incision 18 cut in its upper edge extends. The aperture 16 and the incision 18, because of their arrangement, form what might be termed two upwardly extending semicircular portions which meet at their upper ends and which due to the flexibility of the material will always lie in substantially the same plane. At this point attention is also called to the fact that these upwardly extending curved portions are cut away, as at 19, so as to facilitate their deflection in passing them over the suspension rods 12.

By providing several tongues on each side of the tabs as shown the tabs will be held firmly and flat upon the surface of the suspended article, and by shaping the bottom portion 14 of the tabs as described, in the form of an inverted keystone or pyramid, it is possible to suspend heavier materials as the pull upon each of the tongues 15 will be exerted along different vertical lines.

A further advantages in forming the bottom portion of the tab as shown is that when the tab is squeezed edgewise, as when flexing it, this portion will curve to a conical form so that the tongues 15 beginning with the outer ones can be successively inserted in their particular perforations as the tab is allowed to straighten out.

Where it is desired to suspend tracings and other relatively strong articles it will be possible to apply the tabs 11 directly to the tracing cloth and for this purpose I provide a suitable punch which will perforate the sheet at the six points at one time, the perforations being arranged in radial lines corresponding to the disposition of the tongues 15, and when the tabs are to be applied to weaker materials, such as thin blue prints, I provide the tabs 11 with the stickers 13, as shown in Figure 3 of the drawings, which as previously stated are adapted to be adhesively attached to the surface of the article. With this latter arrangement it will be seen that the projecting tongues 15 will be completely enclosed between the stickers 13 and the article sheet 10 and consequently there will be no projecting ends which can damage adjacent similarly suspended sheets.

If it is desired to suspend more than one sheet of material from a single set of suspension tabs this can be conveniently done by perforating the sheet 10 adjacent the hole 17 in the tab 11 and passing a suitable paper fastener therethrough.

In operation when my improved tabs have been affixed to a sheet of material the tabs can be conveniently placed over the rods 12 by placing the curved portions 19 centrally against the rod and applying a slight pressure. This will cause the upper curved portions to flex in opposite directions and spread the incision 18 so that the rod will easily pass therethrough. When it is desired to remove the sheet from the rods 12 this can be done by merely pulling downwardly on the sheet which operation will cause the upper portions to again flex as when they were placed upon the rods 12. In order to facilitate this latter operation I may, where the size of the tabs and the diameter of the rods 12 warrant, slightly round off the corners at the ends of the incision 18 so that the steel or other stiff material will have no tendency to scratch or cut into the rods 12. When the tabs 11 are provided with adhesive stickers, as illustrated in Figure 3, they can be easily removed from the article without removing the stickers 13 and they can then be used again by simply adding a second sticker to each of the tabs.

While I have, for the sake of clearness and in order to disclose my invention so that the same can be readily understood, described and illustrated specific devices, materials and arrangements, I desire to have it understood that this invention is not limited to the specific means disclosed but may be embodied in other ways that will suggest themselves, in view of this broad disclosure, to persons skilled in the art. It is believed that this invention is broadly new and it is desired to claim it as such so that all such changes as come within the scope of the appended claims are to be considered as part of this invention.

Having thus described my invention, what I claim and desire to secure by Letters Patent is:

1. A suspension device for sheet like articles adapted to be detachably mounted upon a supporting rod comprising a blank of flexible material having an aperture adjacent its

upper edge and an incision extending from said aperture to said edge, and a pyramidally shaped lower portion having outwardly projecting tongues for engaging the article to be suspended, said lower portion being adapted to be flexed to insert its tongues into an article to be suspended and then straightened out to bring the tongues into their original plane when released.

2. A suspension device for sheet like articles adapted to be detachably mounted upon a supporting rod comprising a flat blank of flexible material having an aperture adjacent its upper edge and an incision extending from said aperture to said edge, and a pyramidally shaped lower portion having a plurality of outwardly projecting tongues on the sloping sides thereof adapted to engage the article to be suspended when said lower portion is flexed by pressure exerted edgewise thereupon and interlock with the article when released, said tongues being non-deformable.

3. A suspension device for sheet like articles adapted to be detachably mounted upon a supporting rod comprising a blank of thin spring steel having an aperture adjacent its upper edge and an incision extending from said aperture to said edge, and a lower flexible portion having sides disposed along radial lines extending through said aperture upon which outwardly projecting tongues are provided for engaging the article to be suspended, whereby when the lower portion is flexed said tongues can be inserted into the article to be suspended and remain inserted after the lower portion straightens.

4. In a suspension device for sheet like articles, the combination of a flexible tab having an opening in its upper portion for engaging a supporting rod, a lower portion having oppositely disposed tongues, and an adhesive sticker detachably secured upon said tab by said tongues, whereby the tab may be removed from the sticker without removing the sticker from any article to which it may be adhesively applied.

5. A suspension device for sheet like articles comprising a flat blank of flexible material, said blank having means at its upper end for engaging a support and a downwardly extending lower portion which may be flexed about its vertical axis, and non-deformable tongues extending out from the sides of said lower portion and disposed in the same plane therewith adapted to be inserted into the article to be suspended when said lower portion is flexed.

6. A suspension device for sheet like articls comprising a flat blank of flexible material, said blank having means at its upper end for engaging a support and a downwardly extending pyramidally shaped lower portion which may be flexed about its vertical axis, and non-deformable tongues extending out from the sides of said lower portion and disposed in the same plane therewith adapted to be successively inserted into the article to be suspended when said lower portion is flexed and then released.

CARL E. PEDERSEN.