ABSTRACT OF THE DISCLOSURE

A fixture for clamping an article, such as a camera, to a support, which fixture includes a foot carried by a threaded element, which element is rotatable relative to the foot. A strap cooperates with the foot for fastening the article to the support. The strap is frictionally held on a strap bearing device, which is threaded onto the threaded element.

The fixture of the present invention includes a foot which is adapted to bear against a front side, i.e., a top side, as shown in the drawing, of a support. The foot is carried by a threaded element which carries the article to be supported and is rotatable relative to the foot. A strap bearing device is threaded onto the threaded element and is disposed between the foot and the article supporting end of the threaded element. Two portions of a strap are adjustably and fixedly attachable to the strap bearing device, and an intermediate portion of the strap bears against opposite sides and the rear, i.e., the bottom of the support. By turning the threaded element the foot is forced rearwardly, i.e., as shown downwardly to clamp the support between the foot and the strap.

Specifically, the central section of the strap bearing device is threaded, and opposite side sections are provided with elongated slots, which slots are surrounded by elongated loops, including top and bottom runs. The distance between the runs is greater than the thickness of the side sections, whereby the loops can tilt relative to the side sections. The strap portions are laced through the slots and about the loops in such manner that when the threaded element is turned to increase the distance between the foot and the strap bearing device, the strap portions are frictionally attached to the strap bearing device and travel with the latter.

While the prior art, such as: McFaddin, Pat. No. 1,090,929, issued March 24, 1914; Naglo, Pat. No. 1,103,814, issued July 14, 1914; McNaughton, Pat. No. 1,357,295, issued November 2, 1920; Miller et al., Pat. No. 1,408,900, issued March 7, 1922; and Bodendieck, Pat. No. 1,915,715, issued June 27, 1933, show fixtures for clamping an article to a support, none shows the use of a strap which is laced through a slot in the fixture and about a loop, and which is brought into frictional binding relationship with a tightening device of the fixture.

Other features and the advantages of the present invention will be apparent from the following description, reference being had to the accompanying drawings wherein a preferred embodiment of the invention is illustrated.

In the drawing:

FIG. 1 is a perspective view of the fixture, showing the same fastened to a support and showing it carrying a camera;

FIG. 2 is a front view of the fixture and support, partly in section, the section of the strap bearing device being taken along line 2—2 of FIG. 3, the strap being shown in binding relationship with the strap bearing device;

FIG. 3 is a sectional view taken along line 3—3 of FIG. 2;

FIG. 4 is a fragmentary sectional view taken along line 4—4 of FIG. 3; and

FIG. 5 is a fragmentary sectional view taken along line 5—5 of FIG. 3, but showing the strap in non-binding relationship with the strap bearing device.

Referring more in detail to the drawing, the support 20 may extend in any direction, but is herein shown for illustrative purposes as extending horizontally, for example, as an arm of a chair.

The fixture 22 includes a foot 24 having an upwardly extending hollow boss 25 for receiving the lower end of a threaded element 26, it being provided with a groove 28 for receiving a holding pin 30. The upper end of the threaded element 26 supports a carrier 32. This carrier is pinned at 34 to the element 26 and provides a hand hold for turning the element 26. A standard swivel type coupling 36 is supported on the carrier and is locked in position by the member 38. Coupling 36 carries the camera 40.

A strap bearing device 42 includes a central section 44 which is interposed between the foot 24 and the carrier 32, and threaded onto the threaded element 26. The device 42 also includes opposite side sections 46 and 48, provided, respectively, with elongated slots 50 and 52, slot 50 being more clearly shown in FIG. 5.

An elongated metal loop 54 surrounds side section 46 about the slot 50. This loop includes the upper run 56 and lower run 58. A like loop 60 surrounds side section 48 about the slot 52, and it includes upper run 62 and lower run 64. The outer ends of the side sections are provided with protrusions 66 for preventing accidental removal of the loops from the sections.

A flexible strap 68 formed of a suitable material, such as woven cloth, includes portions 70 and 72, which are fixedly attachable to the strap bearing device 42. Either one or the other of these portions may be permanently attached to device 42, however, I prefer that both may be moved relative to the device and fixed through binding relationship between the upper runs 56 and 62 of the loops and the sides edges of the central section 44 of the device 42. To accomplish this, a portion 74 bears against the rear (bottom) 76 and the opposite sides 78 and 80 of the support 20 and through portions 82 and 84, respectively, forms continuations of portions 70 and 72. Part 85 of portion 70 which extends from portion 82 is laced through slot 50, and is disposed between the loop 54 and the central section of device 42, and then over the top run 56 of the loop. The reverse bend part 86 of portion 70 extends downwardly through the slot 50 and on the side of the loop opposite the part 84. The part 86 then merges into a hand hold portion 88. The portion 72 is formed and laced likewise, the corresponding parts being indicated, respectively, by the numerals 90 and 92 which latter part merges into a hand hold portion 94.

In attaching the fixture, the portion 74 of the strap is looped about the support 20, as shown in FIGS. 1 and 2. The hand holds 88 and 94 are then pulled to take up the slack in the strap. This can be done because the width of a slot 50 or 52 is more than twice the thickness of the strap, plus the thickness of the metal forming the loop whereby the loop can tilt, as shown in FIG. 2. However, the width of the slot is less than twice the thickness of strap, plus the width of the loop, whereby when the distance between the foot 24 and the strap bearing device is increased, by turning the carrier 32, the loops 54 and 60 will tilt, as shown in FIG. 2, and, upon further increase in the distance between the foot and device 42, binding relationship will result between the top portion of 85 and the upper and outer part 96 of
the central section 44 of device 42, and between the bottom of part 86 and the lower edge 98 of the outer slot forming wall for slot 50. The same will result with respect to corresponding strap portions, parts 90 and 92 and the sections 44 and 48.

After binding relationship is established between the strap and the strap bearing device 42, the device can be locked in position by a lock nut 100. The fixture can be removed readily by raising the lock nut 100 and thereafter turning the carrier 32. After the binding relationship between the strap and strap bearing device 42 is removed, the portion 74 of the strap can be enlarged by pulling gently on either of the portions 82 or 84 of the strap 68.

By virtue of the present invention, I have provided a fixture that can be attached to practically any object or support about which the strap can be looped, such as, an arm of a chair, a banister, an upright post, etc. Thus, it is a substitute in many aspects for a tripod. It is simple in construction, inexpensive to manufacture, simple to manipulate and far less bulky and less expensive than practical tripods.

While the form of embodiment herein shown and described, constitutes the preferred form, it is to be understood that other forms may be adopted falling within the scope of the claims that follow.

1. A fixture for clamping an article to a support having front, rear and opposite sides, said fixture comprising in combination:
   (A) a foot adapted to be clamped against the support;
   (B) means for clamping one side of the foot against the front side of the support, including:
      (1) a threaded element having one end thereof rotatably attached to the opposite side of the foot, the other end of the threaded element forming a carrier for the article to be supported and a hand hold for turning the threaded element;
      (2) a strap bearing device having:
         (a) a section threaded onto and disposed between the ends of the threaded element;
         (b) a side section formed integrally with and disposed on one side of the threaded section, said side section having:
            (i) an elongated slot;
      (3) a loop having elongated runs extending substantially longitudinally of the slot and disposed on opposite sides of the slot and about the side section, the inside distance between the runs being greater than the thickness of the side section at the slot, whereby the loop is tiltable relative to the side section;
   (4) a strap having:
      (a) a portion fixedly attachable to the strap bearing device;
      (b) a second portion adjustably and fixedly attachable to the strap bearing device;
      (c) and an intermediate portion bearing against the opposite and the rear sides of the support;
      (d) said second mentioned portion extending forwardly from one of the sides of the support through the slot alongside one side of both longitudinal runs of the loop and

between the loop and the threaded section of the strap bearing device, and then reversely through the slot alongside opposite sides of the runs of the loop and then beyond the strap bearing device;

(i) the relative width of the slot with respect to the aggregate thickness of the strap and loop and the width of the loop are: the slot is wider than the thickness of the loop, plus twice the thickness of the strap, and narrower than the width of the loop, plus twice the thickness of the strap.

2. A fixture as defined in claim 1, characterized to include:
   (C) a lock nut on the threaded element for retaining the strap bearing device in adjusted position with respect to the threaded element.

3. A fixture as defined in claim 1, characterized to include:
   (i) a protrusion at the outer end of the side section of the strap bearing device for preventing accidental removal of the loop from said section.

4. A fixture as defined in claim 1, characterized in that the strap bearing device includes:
   (c) a second side section formed integral with and disposed on the opposite side of the threaded section, said second side section having:
      (i) an elongated slot;
   (5) a loop having elongated runs extending substantially longitudinally of the slot in the second mentioned side section and disposed on opposite sides of the second mentioned slot and about the second mentioned side section, the inside distance between the runs of the second mentioned loop being greater than the width of the second mentioned side section at the slot whereby the loop is tiltable relative to the second mentioned side section;

and further characterized in that:
   (a) said first mentioned portion (4) (a) of the strap extends forwardly from the opposite side of the support through the second mentioned slot and alongside of both longitudinal runs of the second mentioned slot and between the latter loop and the threaded section of the strap bearing device, and then reversely through the second mentioned slot alongside the opposite sides of both runs of the latter loop and then beyond;
   (i) the relative width of the second mentioned slot with respect to the aggregate thickness of the strap and loop and the width of the loop being the same as expressed in (4) (d) (i) of claim 1.

References Cited
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