

Device for mounting accessories on camera objectives
and a hood to be used with this device.

The present invention relates to a device for holding accessories, such as a filter holder, for apparatus for taking pictures such as a still camera or a cine camera.

It is often necessary when taking pictures to arrange, in front of the objective, one or more filters such as a rotatable polarising filter and/or one or more coloured filters as well as a supplementary element such as, for example, a sun shield or similar device.

Because of the differences in diameter of the objective in the numerous types of apparatus for taking pictures which are available commercially, at present it is necessary for manufacturers of photographic accessories such as, notably, filters to provide, for all possible diameters of the objective, the whole range of filters which are necessary.

This increases considerably the cost of manufacture of these accessories and creates an obligation for manufacturers, wholesalers and retailers to keep a large stock of many different items to satisfy customers' requirements.

French Patent 1203564 suggests a solution intended to reduce the number of items in stock.

This patent describes an accessory holding device comprising a body provided with an external screw-thread for screwing onto the objective of apparatus for taking pictures, a cavity in said body for receiving a filter and means for immobilising said filter in its mounting.





This device has, however, the disadvantage of requiring a filter holding body for each size of objective.

The said patent mentions that for a conventional range of objectives it is necessary to provide eleven different bodies.

This device also has the disadvantage of not allowing movement of the filter relative to the objective.

The present invention is intended to provide an accessory holding device which is easily adaptable to all the objective diameters in commercial use, which is simple and economical and which allows reception of various accessories such as, notably, filters and a sun shield while allowing the necessary relative movements, of rotation and/or sliding in translation, of the filters relative to the objective.

The present invention has as its subject, as a new industrial product, an accessory holding device for apparatus for taking pictures comprising a body, means for mounting the body at the objective of the apparatus for taking pictures and means for receiving a photographic accessory, characterised in that said means for mounting comprises a removable annular ring provided with an external screw-thread, said ring being capable of being mounted in place in a corresponding seating of said body in such a manner as to allow rotational movement of said body relative to said objective, said body having on its side opposite the seating of the mounting ring at least one pair of grooves each of which may receive a photographic accessory, notably a filter.

In a particular embodiment of the device of the invention the pair or pairs of grooves are formed in two substantially parallel flanges which are opposed and offset towards the exterior perpendicularly to said body.

In a preferred arrangement the grooves of one of said pairs are arranged facing each other in the internal surfaces of the opposed flanges in such a manner as to allow reception between them of a filter of circular shape, for example, a polarising filter, while allowing rotation of the filter relative to said body, the latter advantageously further comprising lateral abutments preventing disengagement of the rotating circular filter from the body. In a particular embodiment the two opposed flanges each have on their internal surface, in addition to the groove for receiving a rotating circular filter, at least one groove and preferably two grooves for receiving, between the facing grooves of the two flanges, of conventional planar filters, in the form of plates, notably quadrilateral plates, in such a way as to allow sliding displacement in translation of the planar filter or filters relative to the body. At least one of the sides of each of these grooves may advantageously have a certain elasticity to allow holding of a filter in the corresponding grooves.

The grooves in the interior surfaces of the flanges are advantageously arranged so that the accessory-carrying device may receive simultaneously a rotatable circular filter and a sliding planar filter, or two sliding planar filters. There are thus obtained in each case three possibilities of relative movement, that is in the first case rotation of the body relative to the objective, rotation of the circular filter relative to the body and sliding of the planar filter relative to the body, and in the second case rotation of the body relative to the objective and two possible sliding movements in translation of the planar filters relative to the body.

In a particular embodiment the external surfaces of the opposite flanges of the body each comprise a groove for sliding engagement of corresponding fastening tabs of a



sun shield capable of being mounted on the device of the invention.

In a particular embodiment the body of the device according to the invention has a substantially hexagonal shape with a central circular cut-out, the flanges comprising grooves for receiving accessories being arranged on two opposite sides of the hexagonal body. Some of the sides of the body may advantageously have chamfers or hollows allowing, notably, access by a finger to a milled exterior edge of a circular filter to allow the latter to be rotated relative to the body.

Advantageously, the annular intermediate mounting ring has an exteriorly screw-threaded internal collar extending axially from said ring. In this embodiment the seating of the body for receiving the mounting ring is in the form of an annular groove extending around the major part of the circular cut-out of the body and of size corresponding to the external diameter of the ring, an abutment being provided to immobilise laterally the ring in its seating while allowing relative rotation of the ring and the body. Engagement of the ring behind the abutment and removal is carried out using the elasticity of the material forming the ring.

It will be understood that with such an embodiment, with a single body of the device it is possible to provide a set of such mounting rings of which the exterior diameters are identical and correspond to the diameter of the seating, and in which the different diameters of the interior threaded collar correspond to the different dimensions of the objectives which are commercially available. It will be understood that by a simple changing of the mounting ring it is possible to adapt the device of the invention to any objective diameter.

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Other advantages of the invention will appear from a reading of the following description, which does not have any limiting character, of a particular embodiment of the device according to the invention with reference to the accompanying drawings in which:

Figure 1 shows an exploded view in perspective of a device according to the invention, a rotating filter and a planar filter,

Figure 2 is an elevation of the body of the device according to the invention seen from the side of mounting on the objective,

Figure 3 is a view in section along III-III of Figure 2,

Figure 4 is an elevation of the body according to the invention from the side opposite to that of mounting on the objective,

Figure 5 is a view in section along V-V of Figure 4,

Figure 6 is an end view partly in section of a sun shield which may be used with the device according to the invention,

Figure 7 is a front elevation of the sun shield shown in Figure 6.

The device according to the invention is formed essentially of a body 1 of small thickness and substantially hexagonal shape having rounded corners and an intermediate mounting ring 2.

The intermediate ring 2 for mounting the body 1 of the device according to the invention on the objective of





apparatus for taking pictures comprises an annular axial collar 3 capable of being screwed onto the screw-thread which objectives of apparatus for taking pictures possess.

The body 1 of the device, preferably formed as a single unit by moulding, has a central circular cut-out 4 and, on one of its surfaces, a groove 5 of annular shape extending around the major part of the central circular cut-out 4 of the body, this groove being defined in the external wall 6 of the body.

The body 1 comprises in the zone of introduction of the intermediate mounting ring 2 in the groove 5 an abutment of substantially triangular shape 7 intended to retain the mounting ring 2 in the groove 5 of the body. In order to put in place the mounting ring 2 in its seating in the body defined by the annular groove 5, the ring 2 is introduced by sliding it in the direction indicated by arrow A in Figure 2 until it engages behind the abutment 7, the respective dimensions of the groove 5 and the annular intermediate ring 2 being such that once the ring 2 is mounted in the body all movements in rotation of the ring relative to the body are possible.

The groove 5 extends over slightly more than a semicircle so as to retain elastically the intermediate ring 2 which is introduced in it.

The body 1 of the device according to the invention further comprises two parallel flanges 8 facing each other on two opposite sides of the body.

Each of the flanges 8 comprises on its internal surface a plurality of grooves, three in number in the example shown these grooves being formed between ribs of the flanges 8.

Thus each of the flanges 8 comprises a groove 9 defined between a wall 10 of the body and a rib 11 of the flange, a



second groove 12 defined between the rib 11 and a rib 13, and a third groove 14 defined between the rib 13 and a rib 15.

As shown in the drawing the groove 9 in each of the flanges 8 is thinner and deeper than grooves 12 and 14. This groove 9 is intended to receive a circular filter shown at 16 in Figure 1, the filter comprising an annular peripheral rim, for example, a milled metal rim on edge 17.

This circular filter 16 is inserted laterally in the body 1, engaging in the slot 9 until it comes between two lateral abutments 18, the arrangement being such that the filter 16 inserted in the groove 9 may rotate freely relative to the body 1. For this purpose the body 1 may advantageously comprise hollows 19 to allow finger access to the milled rim of the rotatable filter 16.

In addition to a rotatable filter 16 the device may receive a planar filter 20, for example, a wholly or partially coloured filter, or a filter in the shape of a quadrilateral flat plate, this filter 20 being able to be engaged by sliding in the slot 14 provided between the ribs 13 and 15 and, to allow elastic retention of the planar filter in the groove 14, the rib 15 may advantageously be curved in its central part at 15' in the direction of rib 13.

If the rotatable filter is not mounted in place it is possible to mount in place in the device, in addition to a planar filter in groove 14, a second planar filter in groove 12, this second filter also being held by elasticity owing to the curved central part 11' of the rib 11.

It will be understood that the planar filter or filters mounted in place in the device may slide in translation as

required, being mounted in corresponding respective grooves 12 and 14 of the two flanges 8.

These flanges 8 each have advantageously in their exterior surface a groove 21 allowing insertion by sliding of an additional element, such as, for example, a sun shield shown in Figures 6 and 7.

This sun shield is advantageously in the form of a hollow unit, of substantially square shape having rounded edges and comprises, offset towards the inside from the rear surface, two curved tabs 22 capable of engagement by sliding in the grooves 21 of the external surfaces of the flanges 8 of the body 1. The tabs 22 may have, at their ends, projections 23 to allow immobilising of the sun shield on the body 1 of the device of the invention.

It will be understood that owing to the accessory-holding device according to the invention it is possible, by suitable choice of the mounting ring, to mount a number of accessories on any objective of apparatus for taking pictures. Thus it is possible to mount in place simultaneously a rotatable filter, a planar filter and a sun shield, or two planar filters and a sun shield.

The body 1 of the device according to the invention is preferably made as a single unit by moulding of a plastics material capable of giving the body a certain elasticity for mounting in place and removal of both the mounting ring and the rotatable filter. In the embodiment described there is used the plastics material known as "Delrin".

