

MOUNT FOR A PROTECTIVE TUBING LAMP

The present invention pertains to a mount for a protective tubing lamp.

Protective tubing lamps of this type are frequently used for light strip installations. In light strip installations, the protective tubing lamps are lined up in a row with practically no space between them. This means that it is extremely difficult to remove one of the individual protective tubing lamps or units so that one of fluorescent tubes, for example, can be replaced.

The invention is therefore based on the task of providing a mount of the general type indicated above which makes it possible for a protective tubing lamp to be replaced quickly and easily at all times.

On the basis of a mount of the general type indicated above, this task is accomplished according to the invention by a stationary part, which can be attached to, for example, a ceiling, and by a movable part, which is fastened removably to the stationary part in such a way that the two parts hold the protective tubing lamp securely in place.

It is advantageous for the movable part to be connected to the stationary part in such a way that it cannot be lost and preferably in such a way that it can still be removed by the use of a separable hinge.

Although the mount can have any one of many different cross sections, it is advantageous for the stationary part to have a cross section essentially in the form of a "C", the first sidepiece being designed to accept the protective tubing lamp.

Of course, it is possible to provide the hinge at any point on the mount. It is advantageous, however, for the hinge to be located at the free end of the first sidepiece.

The shape of the parts is arbitrary. It is advantageous, however, to



adapt the parts to the shape of the protective tubing lamp. This can be done by designing the first sidepiece and the movable part as the two halves of a clamp, which hold the protect tubing lamp.

It is obvious that the two parts can be connected to each other detachably in many different ways. It is advantageous, however, for the stationary part to be connected detachably to the movable part by a screw connection, located opposite the hinge.

To avoid the use of additional tools, the screw connection can consist of a thumb screw.

The procedure for removing the protective tubing lamp, furthermore, can be made much simpler by providing the first sidepiece with a stop next to the hinge. This stop holds the movable part in position after the movable part has been disconnected from the stationary part and swung out around the hinge as center of rotation. Thus the protective tubing lamp can be moved over laterally to the swung-out movable part while remaining parallel to its original position and then removed in a suitable manner.

According to another advantageous embodiment of the invention, a second sidepiece of the C-shaped stationary part extends essentially in a straight line, and a connecting web, which connects the two sidepieces, is essentially perpendicular to the second sidepiece.

It is favorable for a first plane which connects the base to the free end of the first sidepiece to be essentially parallel to the second sidepiece.

According to another embodiment of the invention, a second plane, which connects the two ends of the movable part, coincides with the first plane after the movable part has been disconnected from the stationary part and pivoted outward around the hinge.

To improve the support of the protective tubing lamp, the two parts can be provided with support elements.

The stability of the mount can be increased by providing a reinforcing layer, which rests against both the second sidepiece and the connecting web.

The mount can be made of metal or plastic, as circumstances dictate.

Additional advantages and features of the present invention can be derived from the following description of an embodiment and from the drawings, to which reference will be made:

Figure 1 shows a cross section of a mount, in which a protective tubing lamp has been installed in the ready-to-operate state;

Figure 2 shows a cross section similar to Figure 1 after the movable part has been swung outward;

Figure 3 shows a cross section similar to Figure 2 after the protective tubing lamp has been moved over into the swung-out movable part;

Figure 4 shows a schematic diagram of protective tubing lamps arranged to form a light strip; and

Figure 5 shows a diagram similar to Figure 4 after one of the protective tubing lamps has been removed from the course of the light strip installation by the use of the mount (not shown) according to Figures 1-3 so that it can be replaced.

Figure 1 shows a mount 10 for a protective tubing lamp 12 in cross section. This mount 10 consists of a stationary part 14, which can be attached to, for example, a ceiling, and a movable part 16, which is fastened in a detachable manner to the stationary part 14. The movable part 16 is connected to the stationary part 14 by a hinge 18, this hinge 18 being located at the free end of a first sidepiece 20 of the stationary part 14, which has a

C-shaped cross section.

Opposite the hinge 18 is a screw connection 22 so that the two parts 14 and 16 can be connected and disconnected; this screw connection consists of a thumb screw 22. Of course, the two parts 14, 16 can also be connected to each other by some other type of device such as a latch.

As can be seen from Figures 1-3, the stationary part 14 has a cross section which is essentially in the form of a "C". The first sidepiece 20 is designed to receive the protective tubing lamp 12.

Although it would be possible to conceive of many different shapes, the first sidepiece 20 and the movable part 16 are designed as the two halves of a clamp, which improves the reliability with which the protective tubing lamp 12 is held in place.

So that the movable part 16 will assume a predetermined position after it has been swung outward, the first sidepiece 20 has a stop 24 next to the hinge 18. According to the design of the mount 10 shown in Figures 1-3, this stop is designed in such a way that a first plane connecting the base to the free end of the first sidepiece 20, this plane being in the present case essentially parallel to the second sidepiece 26, coincides with a second plane connecting the two ends of the movable part 16 after the movable part 16 has been disconnected from the stationary part 14 and swung outward around the hinge 18.

In this position, it becomes very easy to shift the protective tubing lamp 12 over to the movable part 16.

To improve the reliability with which the protective tubing lamp is held in place and protected from impact, the two parts 14, 16 can also be lined with support elements 30.

To increase the stiffness of the C-shaped profile of the stationary part 14, a reinforcing pleat 32 is provided in the area of the second sidepiece 26 and over a certain portion of the connecting piece 28 perpendicular to the sidepiece. This pleat can even extend as far as the thumb screw 22.

Figures 4 and 5 illustrate the procedure for removing and replacing a protective tubing lamp 12.

As already said above, it is not an easy matter to replace one of the lamps in a light strip installation, because the adjacent protective tubing lamps make it impossible to pull the defective fluorescent tube or lamp out in the axial direction.

This difficulty is eliminated in the case of a light strip installation according to Figure 4 in that the protective tube 12 of the lamp to be replaced can now be removed, as shown in Figure 5, from the line of the light strip installation in the direction of arrow A. So that this can be done, the screw connection or thumb screw 22 is first disconnected, and then the movable part 16 is swung out from the stationary part 14 around the hinge 18. Now the protective tube 12 of the lamp to be replaced can be moved over to the swung-out movable part 16.

The lamp to be replaced can now be pulled out in the axial direction from the protective tube 12, which is resting on the movable part; then a new lamp can be introduced into the protective tube, again in the axial direction.

The entire protective tubing lamp can also be removed and replaced.

JUN 4 2002

List of Reference Numbers

- 10 mount
- 12 protective tubing lamp
- 14 stationary part
- 16 movable part
- 18 hinge
- 20 1st (free) sidepiece
- 22 screw connection, thumb screw
- 24 stop
- 26 2nd sidepiece
- 28 connecting web
- 30 support element
- 32 reinforcing pleat

CLAIM(S)

1. Mount for a protective tubing lamp, characterized by a stationary part (14), which can be attached to, for example, a ceiling, and by a movable part (16), which can be fastened detachably to the stationary part (14) in such a way that the two parts (14, 16) hold the protective tubing lamp (12) securely in place.

2. Mount according to Claim 1, characterized in that the movable part (16) is connected to the stationary part (14) by a preferably separable hinge (18).

3. Mount according to Claim 1 or Claim 2, characterized in that the stationary part (14) has a cross section which is essentially in the form of a "C", where a first sidepiece (20) is designed to receive the protective tubing lamp (12).

4. Mount according to Claim 3, characterized in that the hinge (18) is located at the free end of the first sidepiece (20).

5. Mount according to Claim 3 or Claim 4, characterized in that the first sidepiece (20) and the movable part (16) are designed to form the two halves of a clamp to hold the protective tubing lamp (12).

6. Mount according to one of the preceding Claims 2-5, characterized in that the stationary part (14) is connected detachably to the movable part (16) by a screw connection (22), which is located opposite the hinge (18).

7. Mount according to Claim 6, characterized in that the screw connection consists of a thumb screw (22).

8. Mount according to one of the preceding Claims 3-7, characterized in that, next to the hinge (18), the first sidepiece (20) has a stop (24), which holds the movable part (16) in position after the movable part (16) has been

disconnected from the stationary part (14) and swung outward around the hinge (18) as axis of rotation.

9. Mount according to one of the preceding Claims 3-8, characterized in that a second sidepiece (26) of the C-shaped stationary part (14) is essentially straight, and in that a connecting web (28), which connects the two sidepieces (20, 26), is essentially perpendicular to the second sidepiece (26).

10. Mount according to Claim 9, characterized in that a first plane, which connects the base to the free end of the first sidepiece (20), is essentially parallel to the second sidepiece (26).

11. Mount according to Claim 10, characterized in that a second plane, which connects to two ends of the movable part (16), coincides with the first plane after the movable part (16) has been disconnected from the stationary part (14) and swung out around the hinge (18).

12. Mount according to one of the preceding Claims 1-11, characterized in that the two parts (14, 16) are provided with support elements (30) for the protective tubing lamp (12).

13. Mount according to one of the preceding Claims 9-12, characterized in that the stationary part has a reinforcing pleat (32).

14. Mount according to one of the preceding Claims 1-13, characterized in that it consists of metal or plastic.

Fig.1

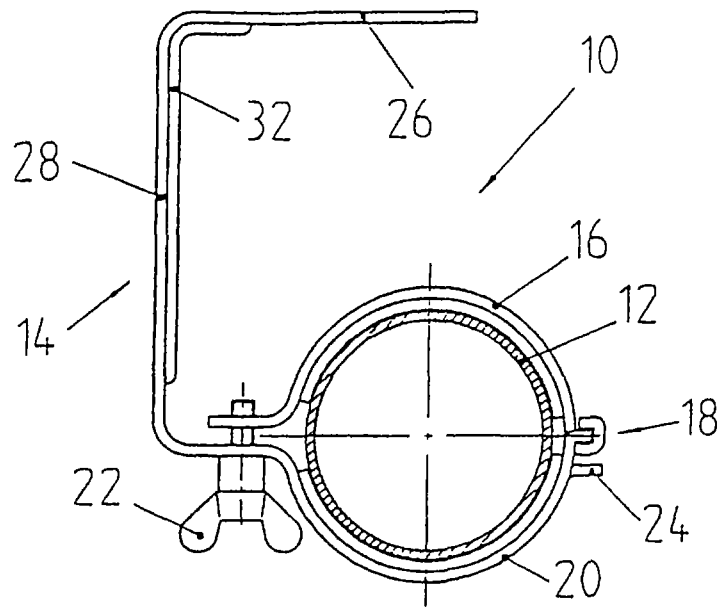


Fig.2

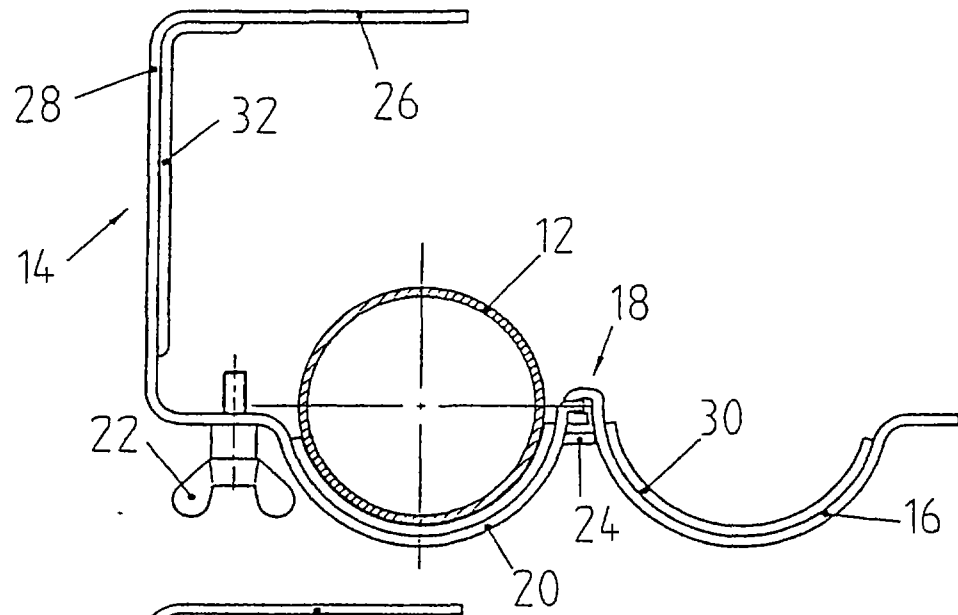
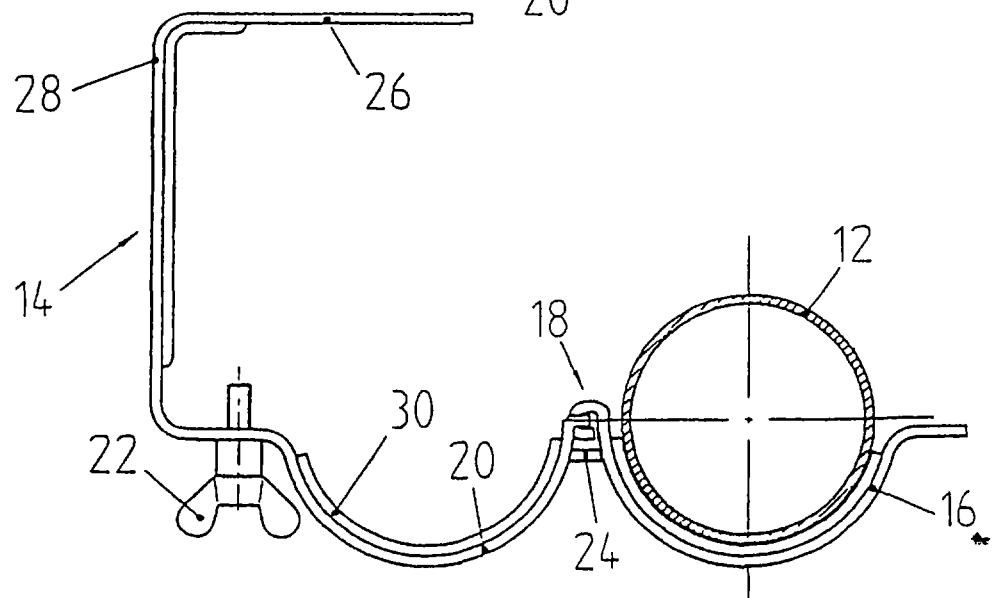
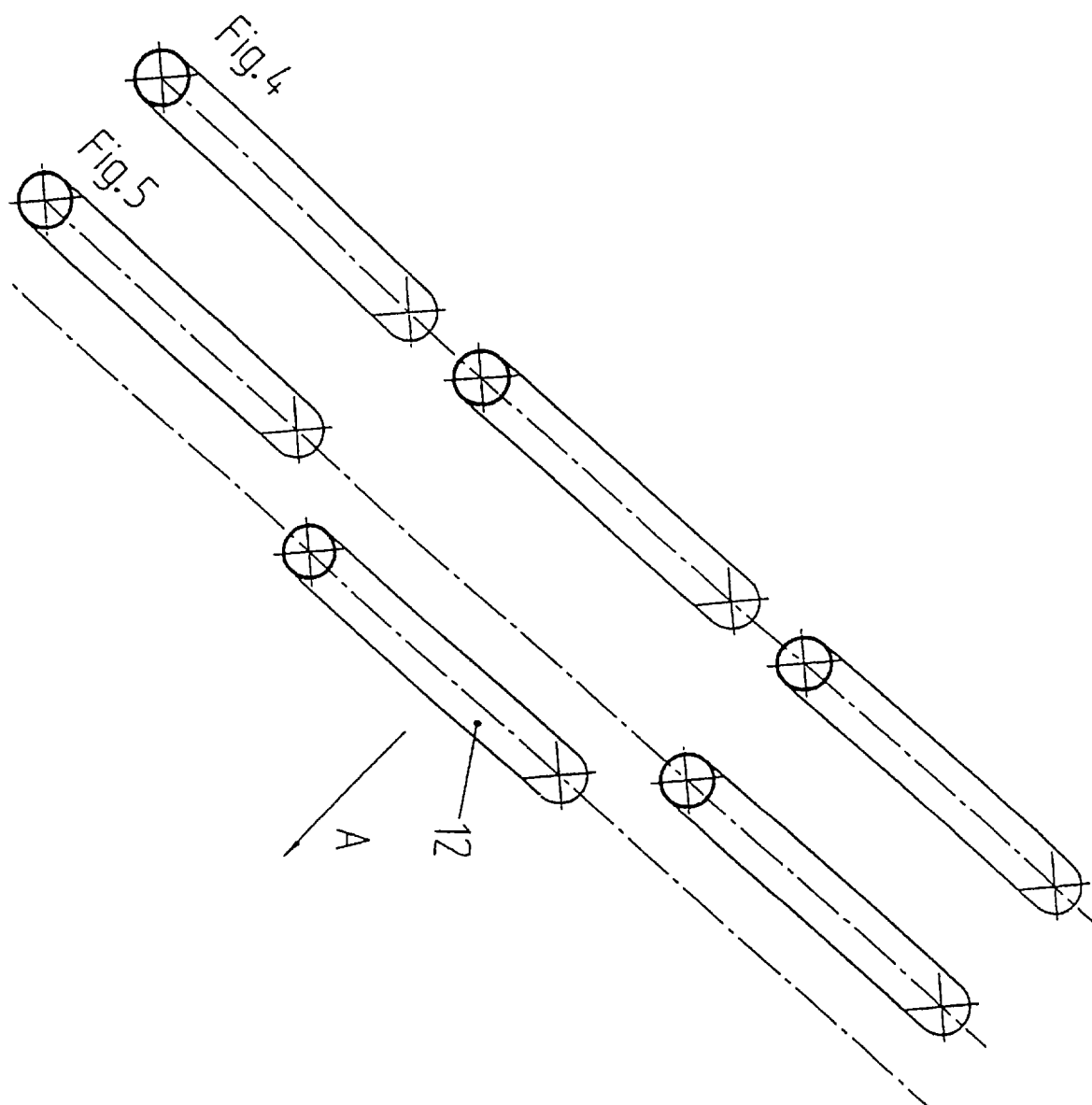


Fig.3





- 3 -

PCT APPLICATION NO. PCT/EP98/08059

Applicant: Herbert Waldmann GmbH & Co.

Title of Invention: HALTERUNG FÜR EINE SCHUTZROHRLEUCHTE

MOUNT FOR A PROTECTIVE TUBING LAMP

The present invention pertains to a mount for a protective tubing lamp having a stationary part which can be attached e.g. to a ceiling and a part being pivotable around a hinge, said pivotable part being removably fastened to said stationary part in such a way that the two parts hold the protective tubing lamp securely in place.

Protective tubing lamps of this type are frequently used for light strip installations. In light strip installations, the protective tubing lamps are lined up in a row with practically no space between them. That means that it is extremely difficult to remove one of the individual protective tubing lamps or units so that one of fluorescent tubes, for example, can be replaced.

The invention is therefore based on the task of providing a mount of the general type indicated above which makes it possible for a protective tubing lamp to be replaced quickly and easily at all times.

With a mount of the general type indicated above this task is accomplished according to the invention by providing the

stationary part with a substantially C-shaped first sidepiece for receiving the protective tubing lamp, said first sidepiece having a stop next to the hinge which holds the pivotable part in position after the pivotable part has been disconnected from said stationary part and has been swung out around the hinge as center of rotation.

It is advantageous for the pivotable part to be connected to the stationary part in such a way that it cannot be lost and preferably in such a way that it can still be removed by means of a hinge.

The subclaims refer to advantageous embodiments of the invention.

Of course, it is possible to provide the hinge at any point on the mount. It is advantageous, however, for the hinge to be located at the free end of the first sidepiece.

The shape of the parts is arbitrary. It is advantageous, however, to adapt the parts to the shape of the protective tubing lamp. This can be done by designing the first sidepiece and the pivotable part as the two halves of a clamp which holds the protective tubing lamp.

It is obvious that the two parts can be connected to each other detachably in many different ways. It is advantageous, however, for the stationary part to be connected detachably to the pivotable part by a screw connection located opposite the hinge.

To avoid the use of additional tools, the screw connection can comprise a thumb screw.

The procedure for removing the protective tubing lamp, fur-

thermore, can be made much simpler by providing the first sidepiece with a stop next to the hinge. This stop holds the pivotable part in position after the pivotable part has been disconnected from the stationary part and swung out around the hinge as center of rotation. Thus the protective tubing lamp can be moved over laterally to the swung-out pivotable part while remaining parallel to its original position and can then be removed in a suitable manner.

According to another advantageous embodiment of the invention, a second sidepiece of the C-shaped stationary part extends essentially in a straight line, and a connecting web which connects the two sidepieces, is essentially perpendicular to the second sidepiece.

It is favourable for the first plane which connects the base to the free end of the first sidepiece to extend essentially parallel to the second sidepiece.

According to another embodiment of the invention, a second plane which connects the two ends of the pivotable part, coincides with the first plane after the pivotable part has been disconnected from the stationary part and has been pivoted outward around the hinge.

To improve the support of the protective tubing lamp the two parts can be provided with support elements.

The stability of the mount can be increased by providing a reinforcing layer which rests against both the second sidepiece and the connecting web.

The mount can be made of metal or plastic, as circumstances dictate.

Additional advantages and features of the present invention can be derived from the following description of an embodiment and from the drawings to which reference will be made:

Figure 1 shows a cross section of a mount in which a protective tubing lamp has been installed in the ready-to-operate state;

Figure 2 shows a cross section similar to Figure 1 after the pivotable part has been swung outward;

Figure 3 shows a cross section similar to Figure 2 after the protective tubing lamp has been moved over into the swung-out pivotable part;

Figure 4 shows a schematic diagram of protective tubing lamps arranged to form a light strip; and

Figure 5 shows a diagram similar to Figure 4 after one of the protective tubing lamps has been removed from the course of the light strip installation by use of the mount (not shown) according to Figures 1-3 so that it can be replaced.

Figure 1 shows a mount 10 for a protective tubing lamp 12 in cross section. This mount 10 consists of a stationary part 14 which can be attached to, e.g. a ceiling, and of a pivotable part 16 which is fastened in a detachable manner to the stationary part 14. The pivotable part 16 is connected to the stationary part 14 by a hinge 18, this hinge 18 being located at the free end of a first sidepiece 20 of the C-shaped stationary part 14.

Opposite the hinge 18 a screw connection 22 is provided so

that the two parts 14 und 16 can be connected and disconnect-
ed; this screw connection comprises a thumb screw 22. Of
course, the two parts 14 and 16 can also be connected to each
other by some other type of device such as a latch.

As can be seen from Figures 1-3 the stationary part 14 is
essentially in the form of a "C". The first sidepiece 20 is
designed to receive the protective tubing lamp 12.

Although it would be possible to conceive of many different
shapes, the first sidepiece 20 and the pivotable part 16 are
designed as the two halves of a clamp to hold the protective
tubing lamp 12 in place more securely.

So that the pivotable part 16 will assume a predetermined
position after it has been swung outward, the first sidepiece
20 has a stop 24 next to the hinge 18. According to the
design of the mount 10 shown in Figures 1-3, this stop is
designed in such a way that a first plane connecting the base
to the free end of the first sidepiece 20, this plane ex-
tending in the present case essentially parallel to the
second sidepiece 26, coincides with a second plane connect-
ing the two ends of the pivotable part 16 after the pivotable
part 16 has been disconnected from the stationary part 14 and
has been swung outward around the hinge 18.

In this position it becomes very easy to shift the protective
tubing lamp 12 over to the pivotable part 16.

To improve the reliability with which the protective tubing
lamp is held in place and protected from impact, the two
parts 14 and 16 can also be lined with support elements 30.

To increase the stiffness of the C-shaped stationary part
14, a reinforcing pleat 32 is provided in the area of the

second sidepiece 26 and over a certain portion of the connecting piece 28 perpendicular to the sidepiece. The pleat can even extend as far as the thumb screw 22.

Figures 4 and 5 illustrate the procedure for removing and replacing a protective tubing lamp 12.

As already said above, it is not an easy matter to replace one of the lamps in a light strip installation because the adjacent protective tubing lamps make it impossible to pull the defective fluorescent tube or lamp out in the axial direction.

This difficulty is eliminated in the case of a light strip installation according to Figure 4 in that the protective tube 12 of the lamp to be replaced can be removed, as shown in Figure 5, from the line of the light strip installation in the direction of arrow A. So that this can be done, the screw connection or thumb screw 22 is first disconnected, and then the pivotable part 16 is swung out from the stationary part 14 around the hinge 18. Now the protective tube 12 of the lamp to be replaced can be moved over to the swung-out pivotable part 16.

The lamp to be replaced can now be pulled out in the axial direction from the protective tubing lamp 12 which is resting on the pivotable part; then a new lamp can be introduced into the protective tube, again in axial direction.

The entire protective tubing lamp can also be removed and replaced.

LIST OF REFERENCE NUMBERS

10	mount
12	protective tubing lamp
14	stationary part
16	pivotable part
18	hinge
20	1st (free) sidepiece
22	screw connection with thumb screw
24	stop
26	2nd sidepiece
28	connecting web
30	support element
32	reinforcing pleat

CLAIMS

1. Mount for a protective tubing lamp (12) having a stationary part (14) which can be attached e.g. to a ceiling, and a part (16) being pivotable around a hinge (18), said pivotable part being removably fastened to said stationary part (14) such that the two parts (14,16) hold the protective tubing lamp (12) securely in place, characterized in that said stationary part (14) includes a substantially C-shaped first sidepiece (22) for receiving the protective tubing lamp (12), and that said first sidepiece (20) has a stop (24) next to the hinge (18) which stop holds said pivotable part (16) after the pivotable part (16) has been disconnected from said stationary part (14) and has been swung out around said hinge (18) as center of rotation.
2. Mount according to claim 1, characterized in that the pivotable part (16) is connected to the stationary part (14) by a detachable hinge (18).
3. Mount according to claim 1 or 2, characterized in that the hinge (18) is located at the free end of the first sidepiece (20).
4. Mount according to one of the preceding claims, characterized in that the first sidepiece (20) and the pivotable part (16) are designed to form the two halves of a clamp for receiving the protective tubing lamp (12).
5. Mount according to one of the preceding claims, characterized in that the stationary part (14) is connected detachably to the pivotable part (16) by a screw connection (22) which is located opposite the hinge (18).

6. Mount according to claim 5, characterized in that the screw connection comprises a thumb screw (22).
7. Mount according to one of the preceding claims, characterized in that a second sidepiece (26) of the stationary part (14) extends essentially straight, and in that a connecting web (28) which connects the two sidepieces (20,26) extends essentially perpendicular to the second sidepiece (26).
8. Mount according to claim 7, characterized in that in a first plane which connects the base to the free end of the first sidepiece (20) extends essentially parallel to the second sidepiece (26).
9. Mount according to claim 8, characterized in that a second plane which connects the two ends of the pivotable part (16) coincides with the first plane after the pivotable part (16) has been disconnected from the stationary part (14) and has been swung out around the hinge (18).
10. Mount according to one of the preceding claims, characterized in that the two parts (14,16) are provided with support elements (30) for the protective tubing lamp (12).
11. Mount according to one of the preceding claims, characterized in that the stationary part has a reinforcing pleat (32).
12. Mount according to one of the preceding claims, characterized in that it consists of metal or plastic.