23, the optical unit main body **19** has a reduced thickness (a thickness of not more than 1 mm) at a portion where the aperture mirror **16** is to be mounted (the exit for parallel light from the collimation lens **12**) so as to reduce the diffraction or reflection of light at the aperture **16***a*. In the example shown in **FIG. 24, a** diameter (D) of an opening of the optical unit main body **19** where the aperture mirror **16** is to be mounted (the diameter of the exit for parallel light from the collimation lens **12**) is larger than a diameter (d2) of the exit of the aperture **16***a* but is smaller than a diameter (d1) of the entrance of the aperture **16***a* so as to reduce the diffraction or reflection of light at the aperture **16***a*.

[**0064**] **FIG. 25** is a structural illustration of one example of the aperture mirror **16**. In the example shown in **FIG. 25, a** surface of the aperture mirror **16**, which faces the polygon mirror **15**, has a mirror finish so that light returned from the recurrence reflection sheet **7** is efficiently guided to the light receiving system (light receiving lens **17**) by this mirror section. In such an aperture mirror **16**, since the aperture **16***a* and the mirror section are formed as one body, it is possible to readily increase the accuracy of the parallelism between the optical axis and the aperture mirror **16**.

[**0065**] **FIG. 26** is a structural illustration of another example of the aperture mirror **16**. In the example shown in **FIG. 26, a** mirror **51** is attached to a surface of the aperture mirror **16**, which faces the polygon mirror **15**, so that light returned from the recurrence reflection sheet **7** is efficiently guided to the light receiving system (light receiving lens **17**) by this mirror **51**. In such an aperture mirror **16**, a mirror finish is unnecessary, thereby achieving a low cost.

[**0066**] **FIG. 27** and **FIG. 28** are illustrations showing a state of mounting of the aperture mirror **16** on the optical unit main body **19**. In the example shown in **FIG. 27**, positioning of the aperture mirror **16** with respect to the optical unit main body **19** is implemented by a move-and-touch structure, thereby achieving parallelism between the optical axis and the aperture mirror **16** with high accuracy. Moreover, in the example shown in **FIG. 27**, since a clearance hole **19***c* is formed at a portion of the optical unit main body **19** toward which the aperture mirror **16** is moved to touch, a sufficient light receiving area is ensured, thereby improving the S/N ratio. In the example shown in **FIG. 28**, the aperture mirror **16** is mounted on the optical unit main body **19** by a detachable mounting member **52**, and this mounting has the advantage of easy replacement of the aperture mirror **16** because the aperture mirror **16** is not fixed by adhesion.

[**0067**] Light Receiving Lens

[**0068**] The light receiving lens **17** can perform an optical axis adjustment similar to that described for the collimation lens **12**. **FIG. 29** is an illustration showing a state of implementing the positional adjustment and fixing of the light receiving lens **17**. The light receiving lens **17** is fixed in a cylindrical lens holder **61** which is fitted into the hollow section of the optical unit main body **19**. The peripheral surface of the lens holder **61** has a groove **61***a* running in a direction perpendicular to the optical axis, and this groove **61***a* is connected to a hole **19***d* of the optical unit main body **19**. By inserting a later-described deflecting jig **62** into this hole **19***d* and groove **61***a* in a direction perpendicular to the optical axis and moving the deflecting jig **62**, it is possible to move the lens holder **61** having the light receiving lens **17** fixed therein in an optical axis direction.

[**0069**] Further, in order to perform the positional adjustment of the light receiving lens **17**, a focus adjustment is carried out by inserting the deflecting jig **62** into the hole **19***d* and groove **61***a* in a direction perpendicular to the optical axis and moving the lens holder **61** to make a fine adjustment to the distance between the light receiving element **13** and the light receiving lens **17**, and, after the adjustment, the lens holder **61** is pressed by a plate spring and fixed with screws in the same manner as in the collimation lens **12**. Accordingly, it is possible to significantly reduce the adjustment time of the light receiving lens **17**.

[**0070**] Slit Plate **14**

[**0071**] **FIG. 30** is an illustration showing an example of the structure of the slit plate **14**, in which the length of a screw hole **71** for mounting the slit plate **14** on the optical unit main body **19**, in a direction perpendicular to a longitudinal direction of the slit **14***a*, is longer than the diameter of a screw **72** to give play in the screw hole **71** so as to permit the slit plate **14** to slide, and the slit plate **14** is mounted so that it can slide. Accordingly, positioning of the slit **14***a* of the slit plate **14** can be performed accurately.

[**0072**] **FIG. 31** is an illustration showing an example of mounting of the slit plate **14** on the optical unit main body **19**. In this structure, the slide direction of the slit plate **14** is limited to one direction by inserting the slit plate **14** into a groove-type holding structure section **19***e* of the optical unit main body **19**.

[**0073**] **FIG. 32** is an illustration showing another example of mounting of the slit plate **14** on the optical unit main body **19**. In this structure, the slit plate **14** is mounted by pushing one side of the slit plate **14** against the optical unit main body **19**, thereby limiting the moving direction of the slit plate **14**.

[**0074**] Next, the following description will explain a process of mounting the above-mentioned optical members on the optical unit main body **19**. First, the lens holder **31** on which the collimation lens **12** is fixed is placed in the optical unit main body **19**, and the lens holder **31** is mounted on the optical unit main body **19** while performing a collimate adjustment. Subsequently, the light emitting element fixing substrate **41** on which the light emitting element **11** is fixed is mounted while performing the X-axis and Y-axis adjustment. Next, the aperture mirror **16** is mounted while correcting the aperture. At this time, the collimate adjustment should be confirmed. Subsequently, the lens holder **61** on which the light receiving lens **17** is fixed is placed in the optical lens unit **19**, and the lens holder **61** is mounted on the optical unit main body **19** while performing a light focus adjustment. Then, the slit plate **14** is mounted so that it performs a desired slit function by preventing the effect of disturbing light such as illumination light. At this time, the focus adjustment should be confirmed. Next, the polygon mirror **15** and motor **18** are mounted on the optical unit main body **19** with the use of the motor fixing holes **19***a*. In this case, since the motor fixing holes **19***a* and the optical unit main body **19** are formed as one body, the positioning of the motor fixing holes **19***a* and the optical axis has been already performed, and thus it is only necessary to simply mount the polygon mirror **15** and motor **18** in the motor fixing holes **19***a* without the necessity of precise adjustment of the optical scanning system. Finally, the light receiving element **13** is mounted.

[**0075**] Next, the following description will explain an operation of calculating the position and size of the indicator