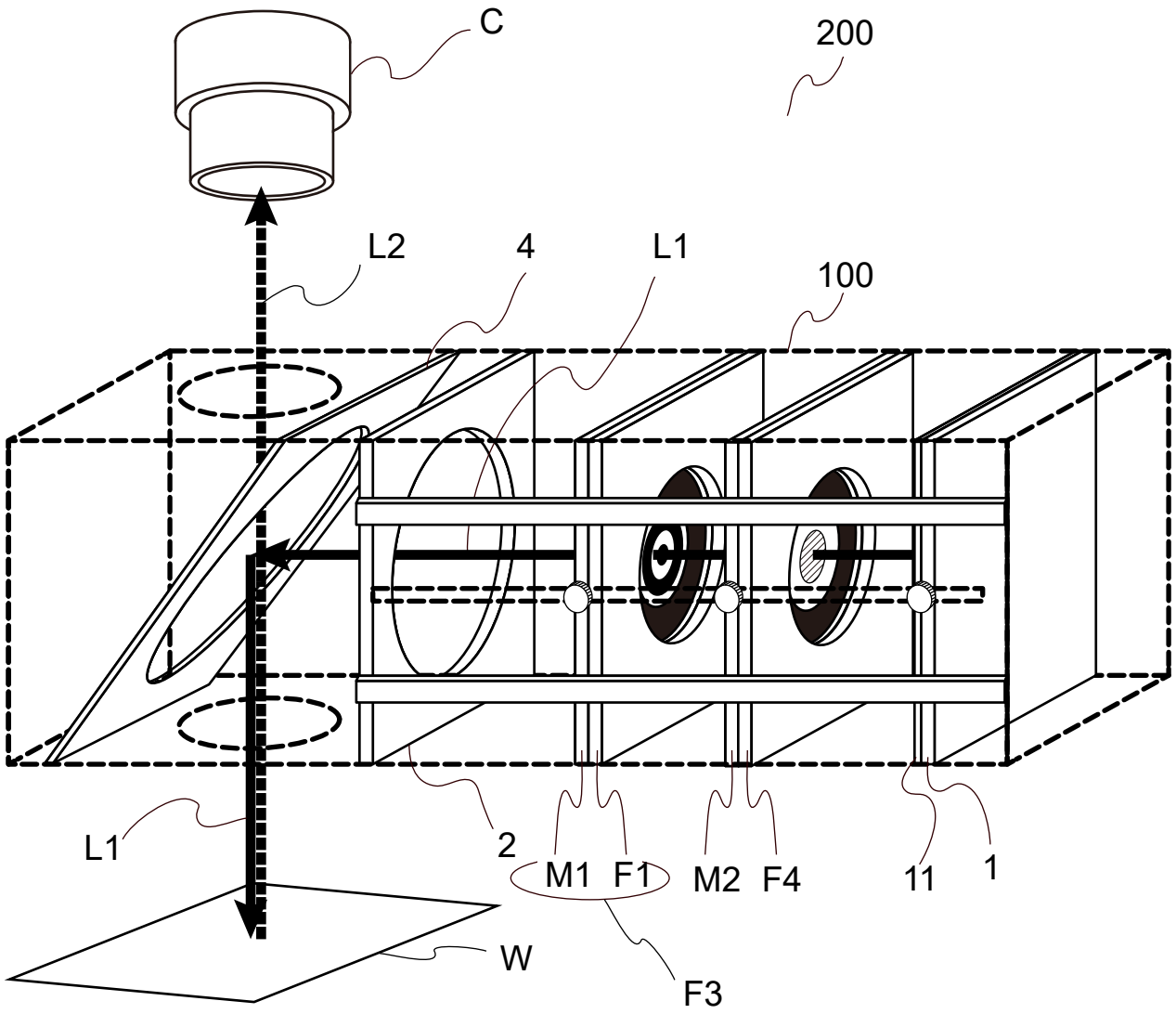
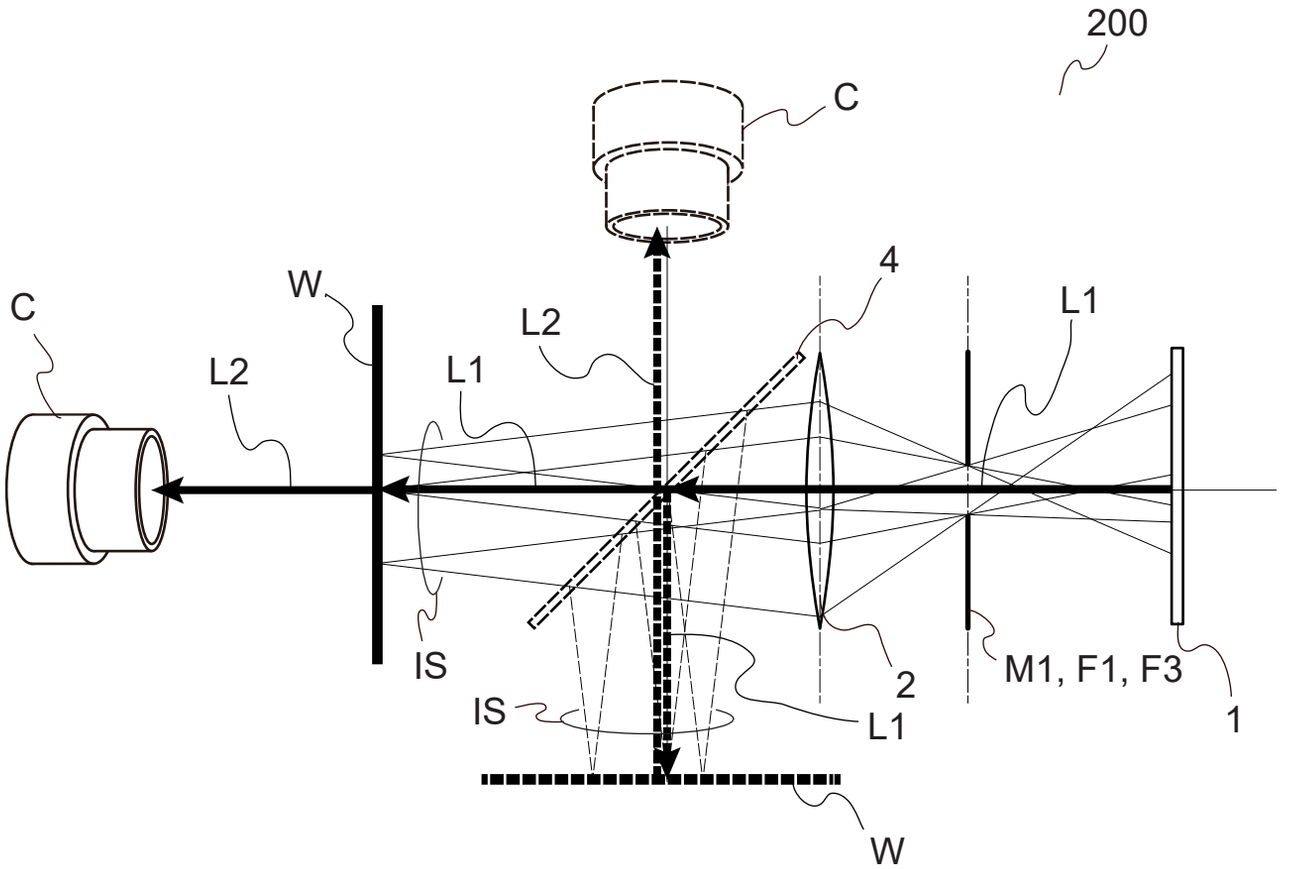
FIG. 1



*1 Outer housing of inspection lighting device is schematically indicated by dotted lines.

*2 First shielding mask M1 denotes mask of shielding portion, F1 denotes portion, within aperture, that transmits only light having specific wavelength band or polarization or that has specific transmittance, and F3 denotes irradiation solid angle forming means as a whole that integrates both. (see FIG. 4)

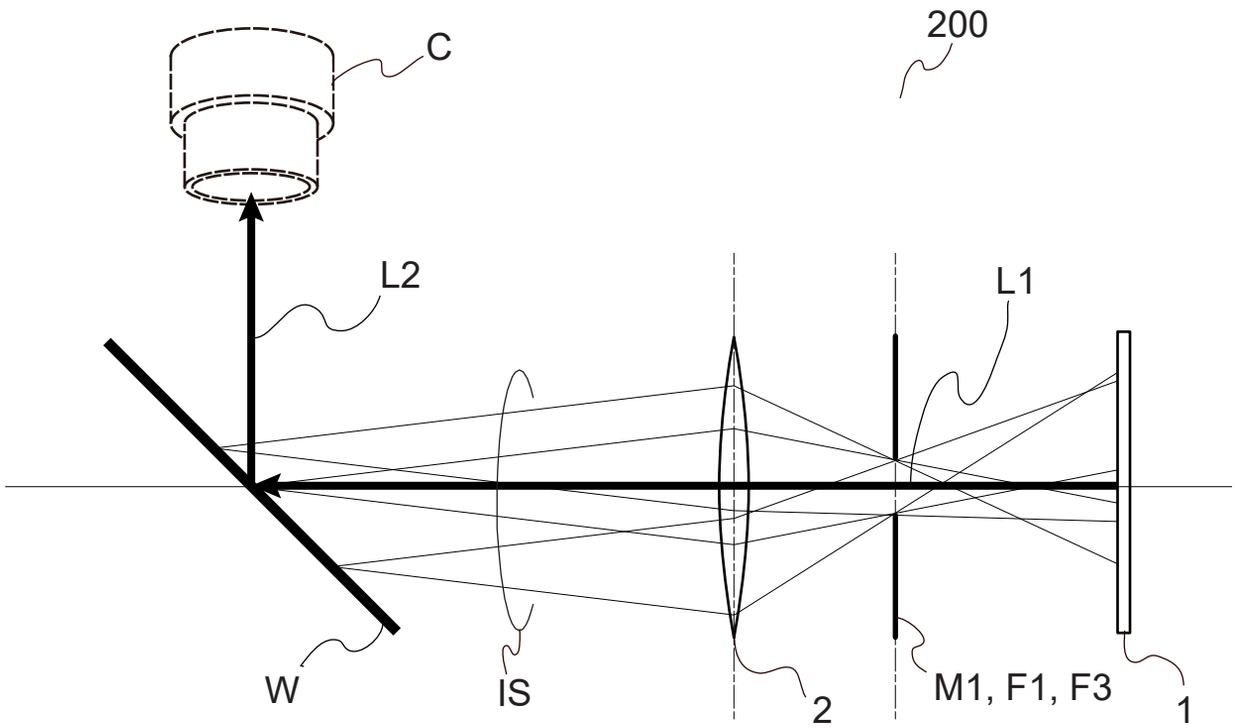
FIG. 2



*1 Half mirror 4, imaging device C, inspection object W, and light path in the case where half mirror is provided are indicated by dashed lines.

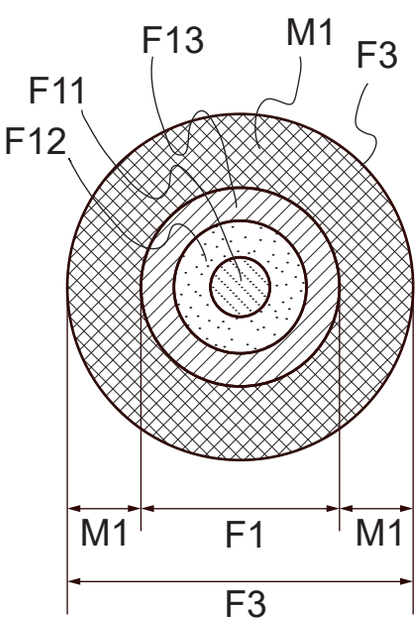
*2 First shielding mask M1 denotes mask of shielding portion, F1 denotes portion, within aperture, that transmits only light having specific wavelength band or
polarization or that has specific transmittance, and F3 denotes irradiation solid angle forming means as a whole that integrates both. (see FIG. 4)

FIG. 3



* First shielding mask M1 denotes mask of shielding portion, F1 denotes portion, within aperture, that transmits only light having specific wavelength band or polarization or that has specific transmittance, and F3 denotes irradiation solid angle forming means as a whole that integrates both. (see FIG. 4)

FIG. 4



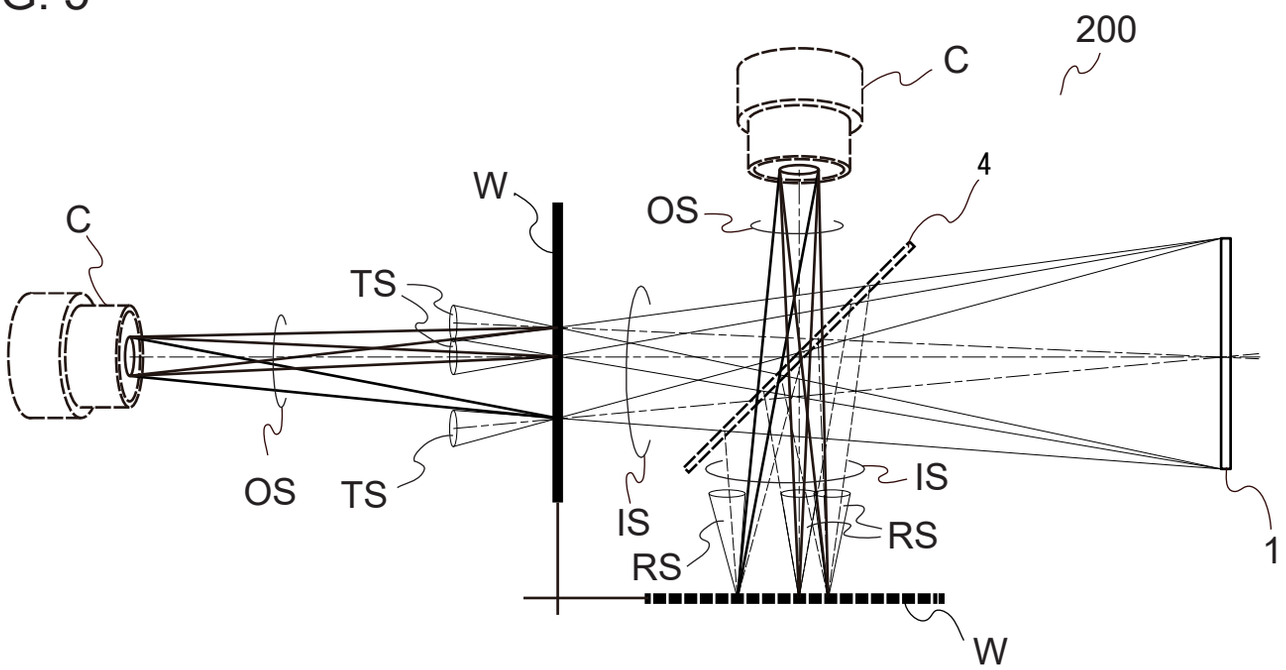
M1 : Shielding portion

F13, F12, F11 : Portions that each transmit only light having specific wavelength band or polarization or that each have specific transmittance

* First shielding mask M1 denotes mask of shielding portion, first filtering means F1 denotes portion, within aperture, that transmits only light having specific wavelength band or polarization or that has specific transmittance, and third filtering means F3 denotes irradiation solid angle forming means as a whole that integrates both.

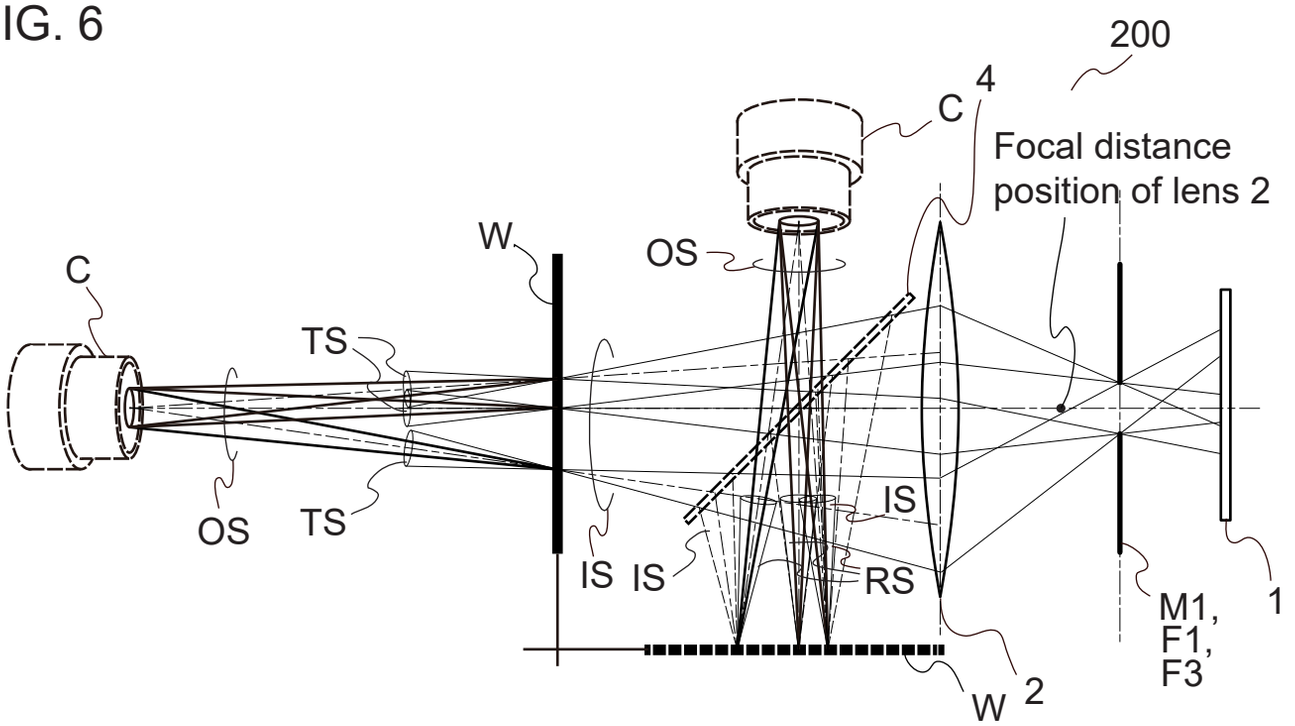
* Except for first shielding mask, M1 of shielding portion may also function as portion that transmits only light having specific wavelength band or polarization or that has specific transmittance.

FIG. 5



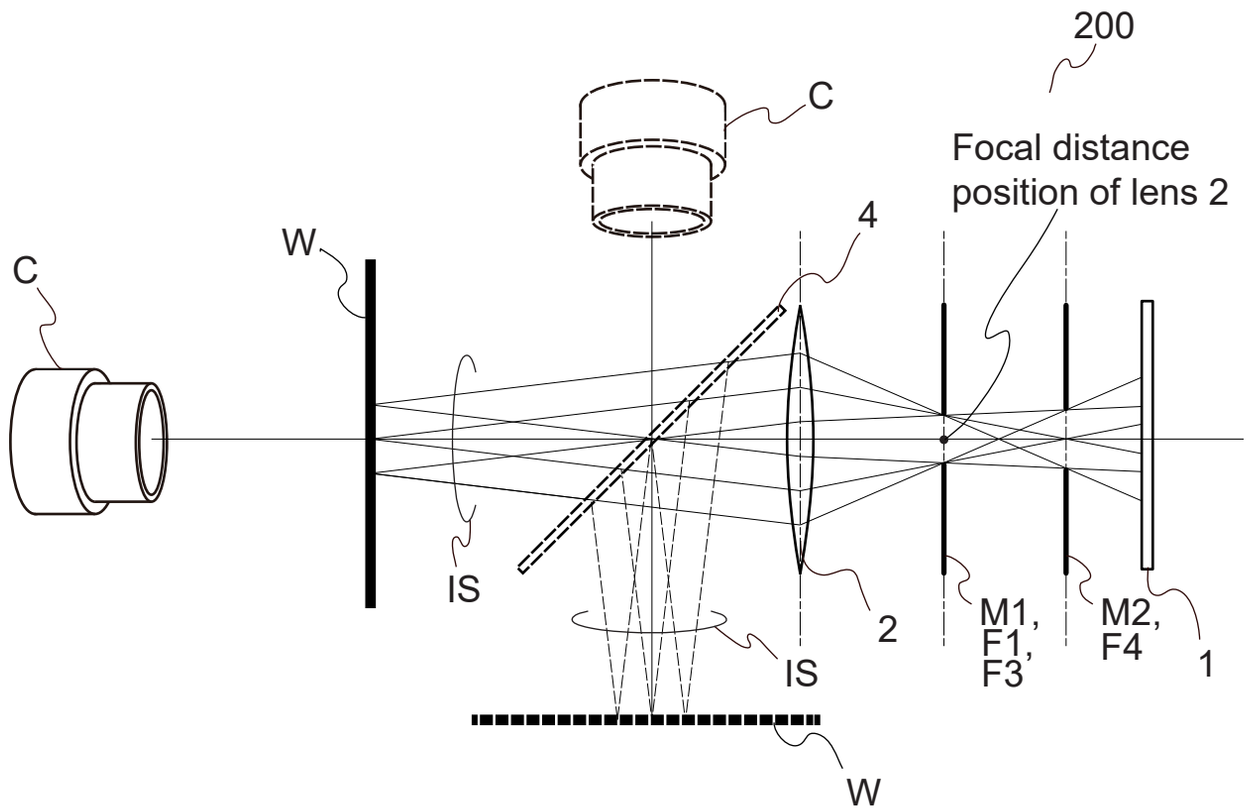
* Half mirror 4, imaging device C, inspection object W, and light path in the case where half mirror is provided are indicated by dashed lines, and observation solid angles are indicated by thick solid lines in either case.

FIG. 6



* Half mirror 4, imaging device C, inspection object W, and light path in the case where half mirror is provided are indicated by dashed lines, and observation solid angles are indicated by thick solid lines in either case.

FIG. 7

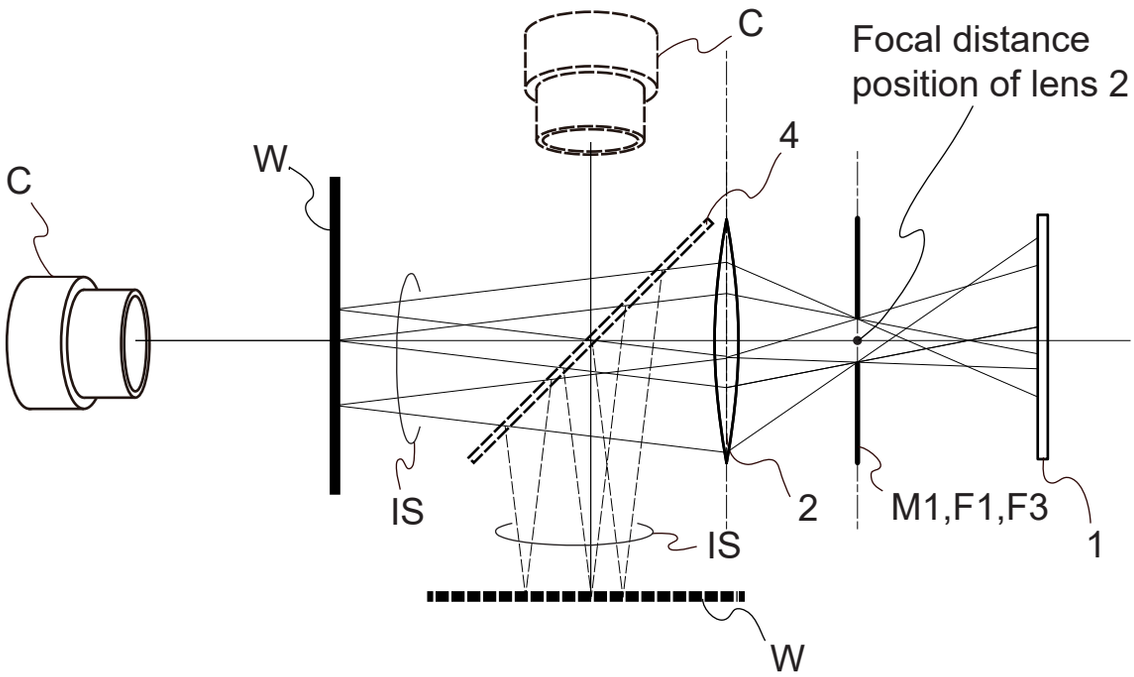


*1 Half mirror 4, imaging device C, inspection object W, and light path in the case where half mirror is provided are indicated by dashed lines.

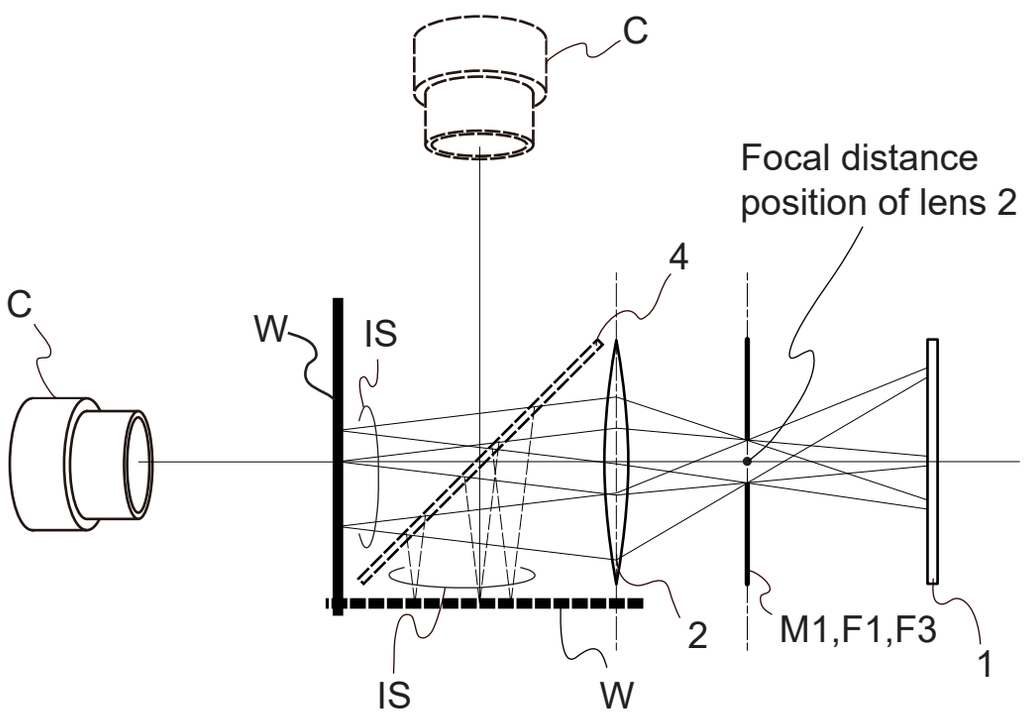
*2 The distinction among M1, F1, and F3 is as follows: M1 denotes aperture in the diagram when regarded as aperture of shielding mask, F1 denotes aperture in the diagram when regarded as portion for specific wavelength band or polarization or having specific transmittance, and F3 denotes irradiation solid angle forming means as a whole that integrates both. (see FIG. 4)

*3 The distinction between M2 and F4 is as follows: M2 denotes aperture in the diagram when regarded as aperture of shielding mask, and F4 denotes aperture in the diagram when regarded as portion for specific wavelength band or polarization or having specific transmittance.

FIG. 8



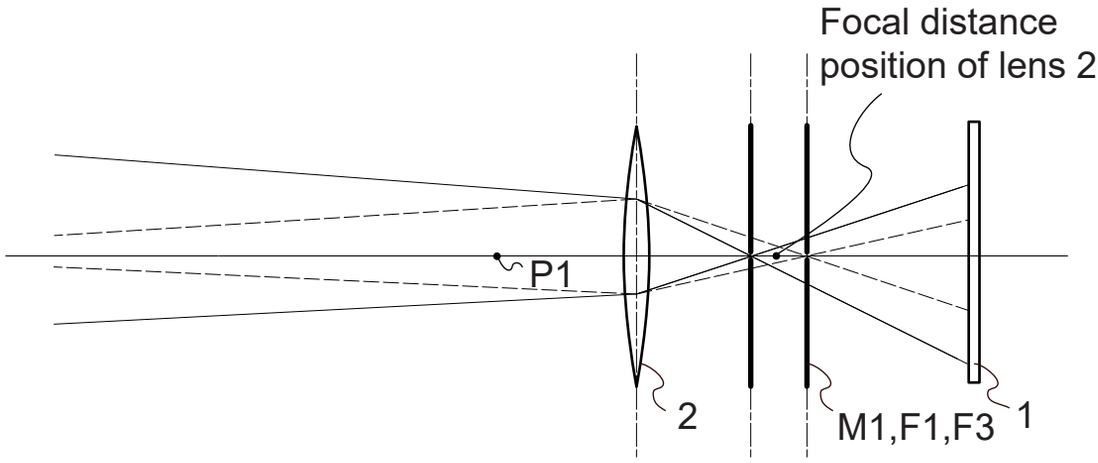
(a) When distance between inspection object and inspection lighting device is large



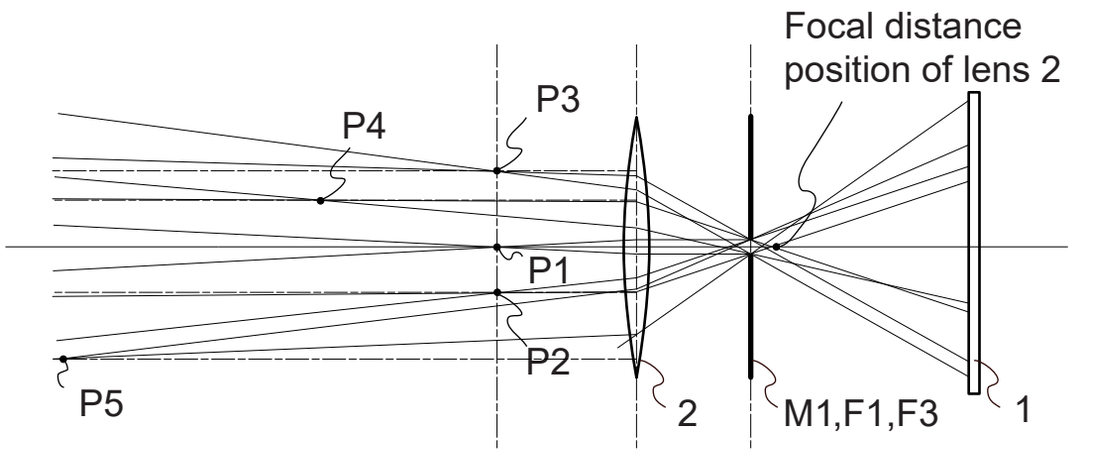
(b) When distance between inspection object and inspection lighting device is small

* Half mirror 4, imaging device C, inspection object W, and light path in the case where half mirror is provided are indicated by dashed lines.

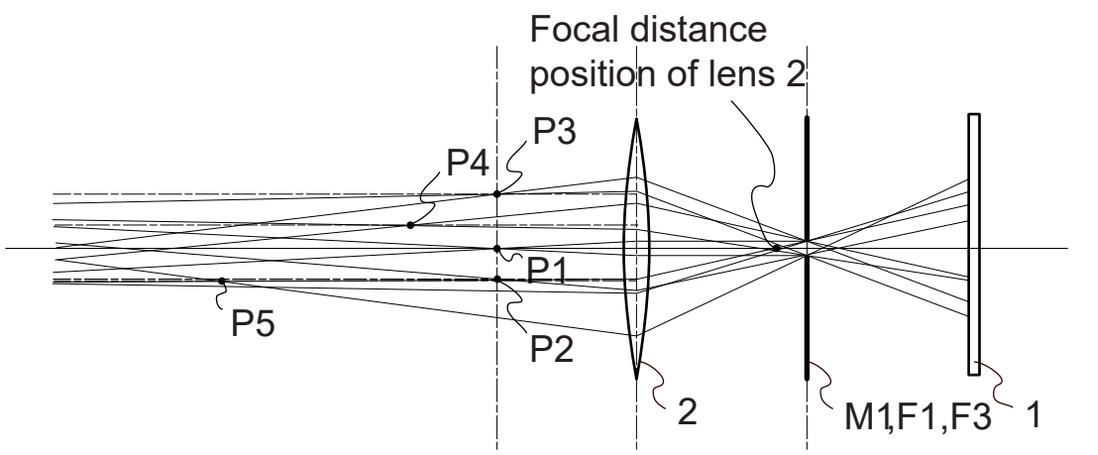
FIG. 9



(a) When first shielding mask is extremely small transmitting portion and is located in the vicinity of focal distance position



(b) When first shielding mask has a certain size and is located nearer to lens than focal distance position



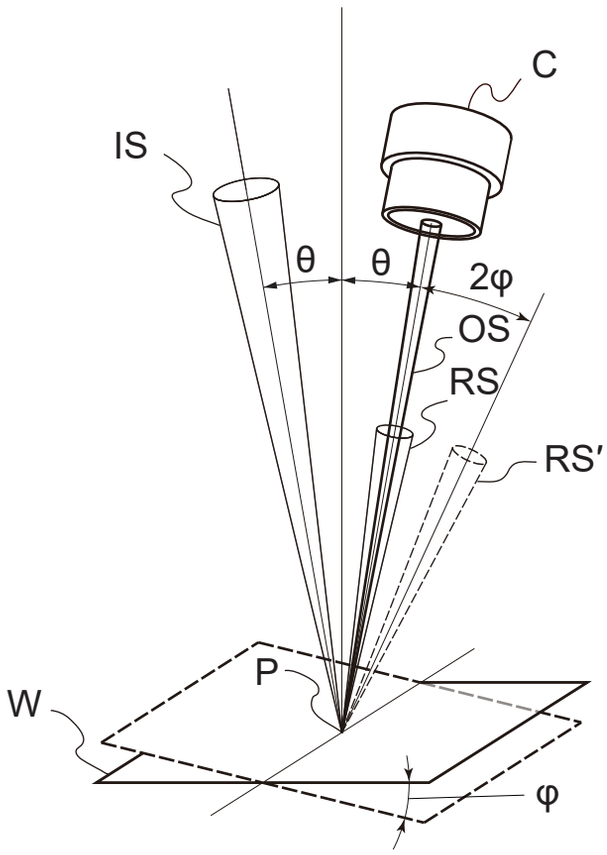
(c) When first shielding mask has a certain size and is located nearer to light source surface than focal distance position

*1 P1, P2, P3: Object-side focal distance position of lens 2

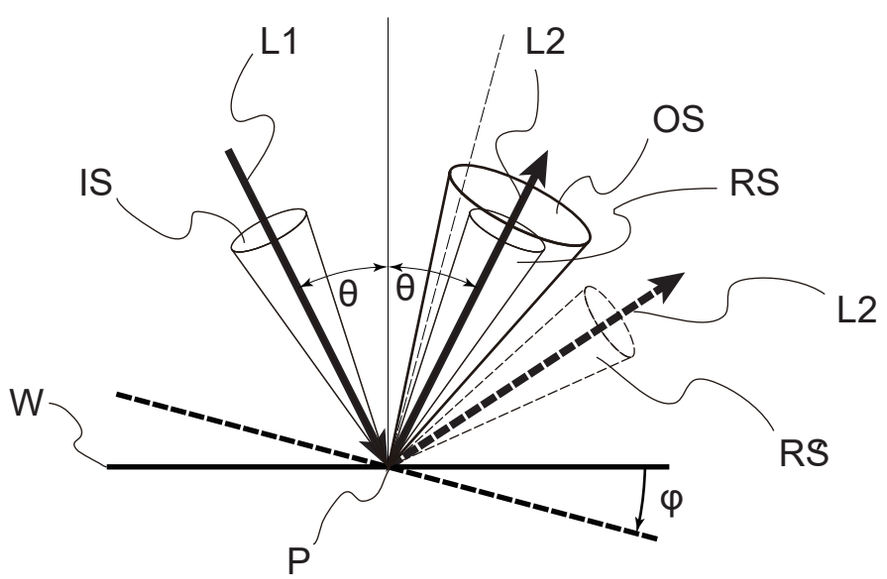
*2 P4, P5: Arbitrary point farther away than object-side P1 from lens 2

*3 Half plane angle of irradiation solid angle $\theta = tan^{-1}\left(\frac{r}{2f}\right)$

FIG. 10

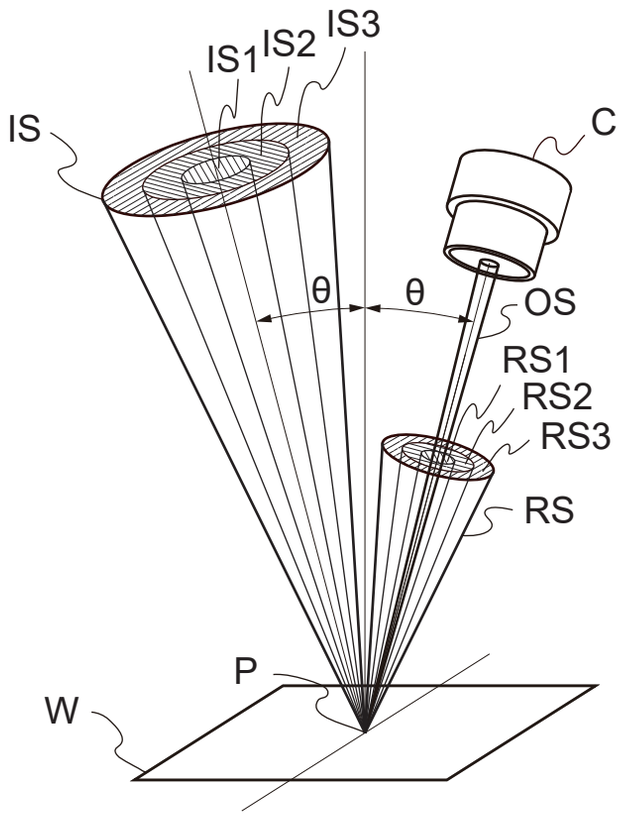


(a) Change in solid angle of reflected light due to partial inclination of inspection object

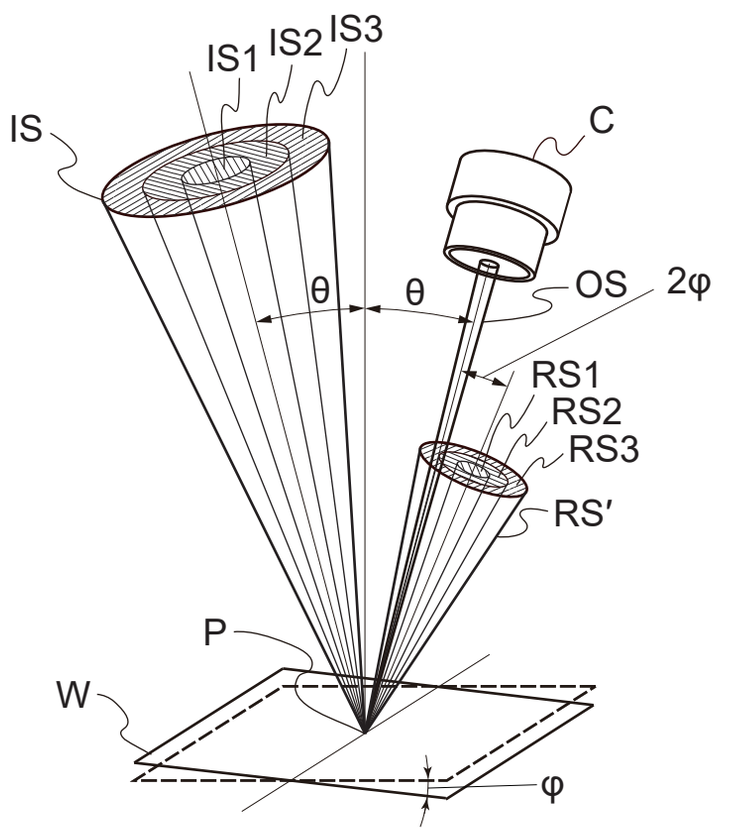


(b) Change in solid angle of reflected light and change in inclusive relation between solid angle of reflected light and observation solid angle

FIG. 11

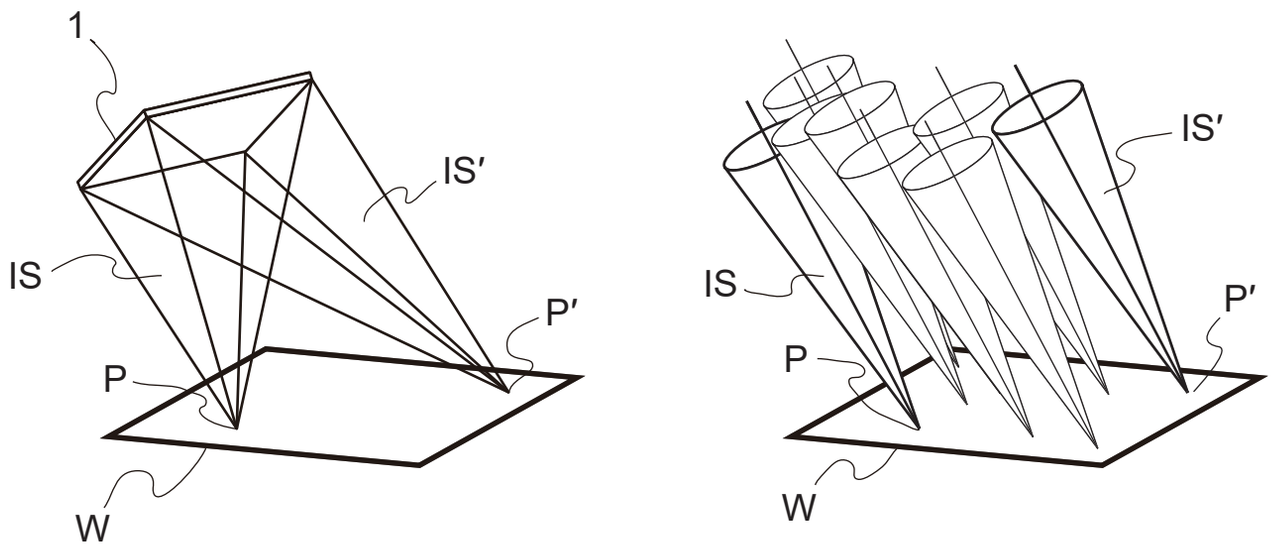


(a) When inspection surface is planar, optical axis of reflected light and optical axis of observation solid angle coincide with each other.



(b) When inspection surface is inclined, optical axis of reflected light is shifted from optical axis of observation solid angle.

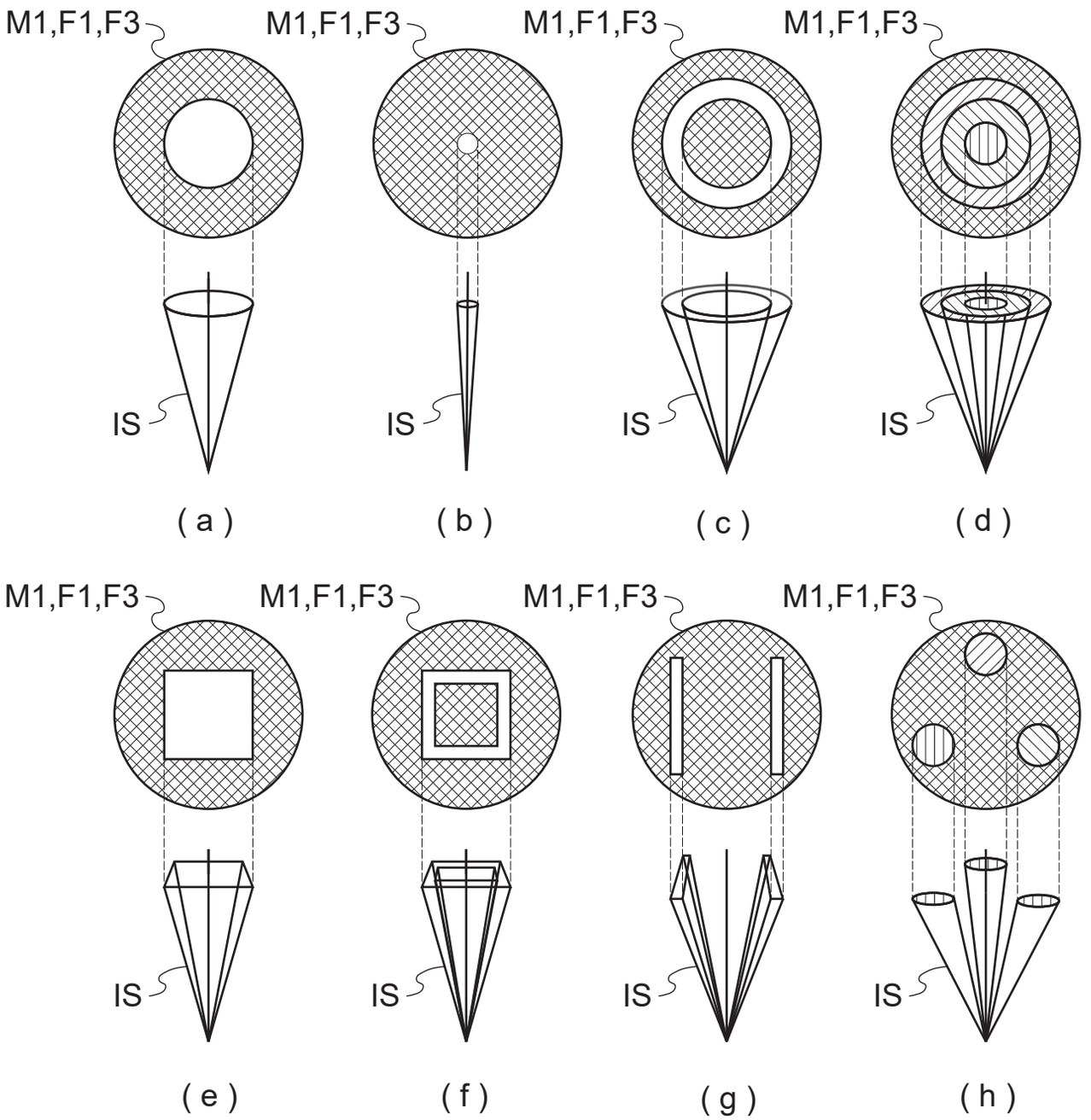
FIG. 12



(a) Conventional lighting

(b) Lighting of the present invention

FIG. 13


M1,F1,F3
IS
(a)
(b)
(c)
(d)
(e)
(f)
(g)
(h)
: Shielding portion M1
(Specific optical attribute may be provided by F1 or F3.)
: Region IS1 having distinct optical attribute
: Region IS2 having distinct optical attribute
: Region IS3 having distinct optical attribute
: Aperture that transmits light
(Specific optical attribute may be provided by F1 or F3.)