

## COASTAL VIEW CAMERA OF JAPANESE HYDROGRAPHIC OFFICE TYPE

Extract from a booklet delivered to the I.H.B  
by the Japanese delegation at the VIIth International Hydrographic Conference.

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### *I. Introductory Remarks.*

In the Japanese Hydrographic Office, coastal views are frequently printed in many publications issued there for hydrographic and navigational use. Photographs and sketched line-drawings are used.

The subject which we now wish to deal with is of course related to photographs, not to line-drawings.

Until recently a single strip of coastal views was made up by connecting several prints taken with an ordinary camera. But this special coastal view camera was devised in our office in 1953, and since then it has been used with extreme convenience.

With this camera, it is easy to obtain a photograph having an angle of view of  $137^\circ$  and image size of  $4.5 \times 27.3$  cm. by a single exposure ; each roll contains 25 views.

For your easy understanding, two kinds of coastal view are shown below ; one is made, as usual, by connecting several prints and the other is made by a single exposure with this new camera.

We now have the satisfaction of being able to make efficient and excellent photographs of coastal views by this camera. In addition we must say that it is not only used to take photographs of coastal views, but also to take photographs of port views, maritime facilities, accidents at sea and large groups of people.

### *II. Construction of camera.*

The general appearance of this camera is shown in Fig 3. Its shape differs considerably from that of an ordinary camera. The front of the semi-circle is the place where the lens revolves, the back being the place where a long roll of film is inserted.

The details of its main parts are as follows :

With brief reference to its construction, this is a type of panoramic camera ; it is specially designed to take 25 exposures per film. For this purpose, a film is inserted in the semi-circle and the lens is revolved with a nodal point as the center. The light slides onto the surface of the film from one side by a slit shutter and prints the images.

The part of the lens revolution is illustrated as follows :

When the lens is revolved with a nodal point as the center, the extreme end of a hood attached to the lens coincides with the focal surface of the lens, a

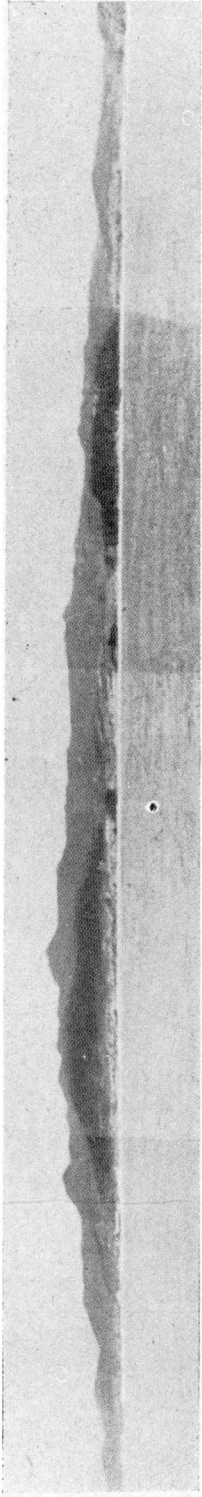
slit being made there. This slit, running along the sensitive surface of the film, makes an incessant exposure of belt-line shape.

This principle may be said to be the same as the one relating to a focal plane shutter which is attached to a reflex camera.

It is needless to say that if the subject is nearer than infinity, an image is easily made by control of the lens mount. And the center axis of this camera points to a position  $1/3$  the height of the image. This reason is this : generally speaking, when photographing on the sea, most subjects are seen at sea level, and in case a panoramic camera is used, those images which are not on the x axis of the lens are apt to be seen curved. Therefore the center axis of this camera is designed to point to a position lower than the one in ordinary cameras.

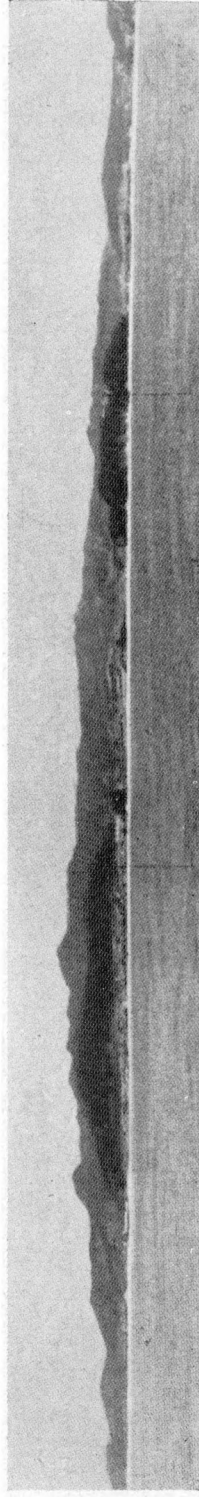
For purposes of illustration some photographs of the camera's actual construction are submitted herewith.

The film to be inserted in this camera is a No. 120, 8 m. long roll of Panchromatic film. It is inserted in a film magazine and twenty-five  $4.5 \times 27.3$  cm views are able to be taken in succession.



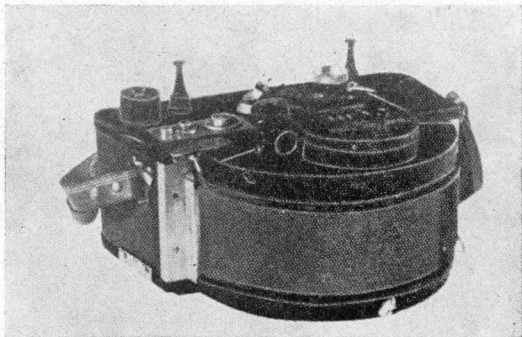
*Fig. 1.*

Coastal view by connecting several prints.



*Fig. 2.*

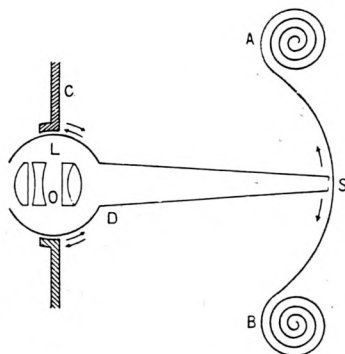
Coastal view made by this coastal view camera.



*Fig. 3.*

Coastal view camera.

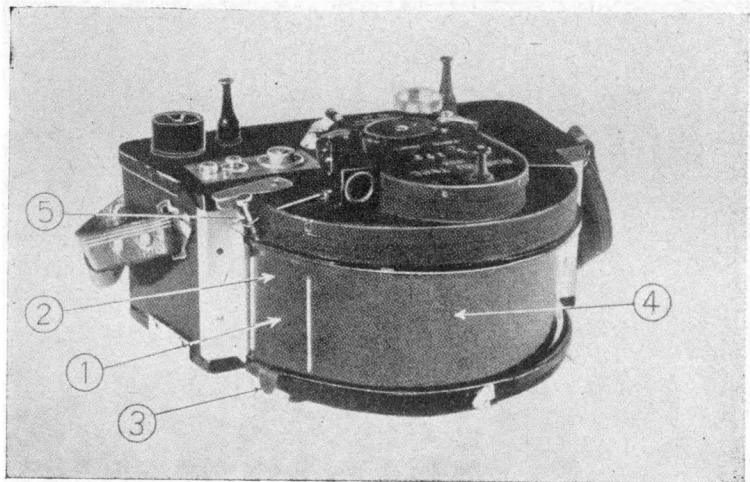
1. Size and weight : 26×34 cm. 12 kg.
2. Lens : Tessar f:120 mm. F 4.5.
3. Angle of view : 137°.
4. Size of image : 4.5×27.3 cm
5. Shutter : Slit shutter.
6. Exposure : 1/10 1/50 1/200 1/400<sup>s</sup>.
7. Time of one exposure : under 1/2 s
8. Film : No. 120 8 m. long 25 exposures.



*Fig. 4.*

Construction of part of lens revolution.

- AB : Sensitive film wound up in shape of semi-circle.  
 C : Part covered from the light.  
 D : Lens hood.  
 L : Lens.  
 O : Nodal point.  
 S : Slit (Focal surface).

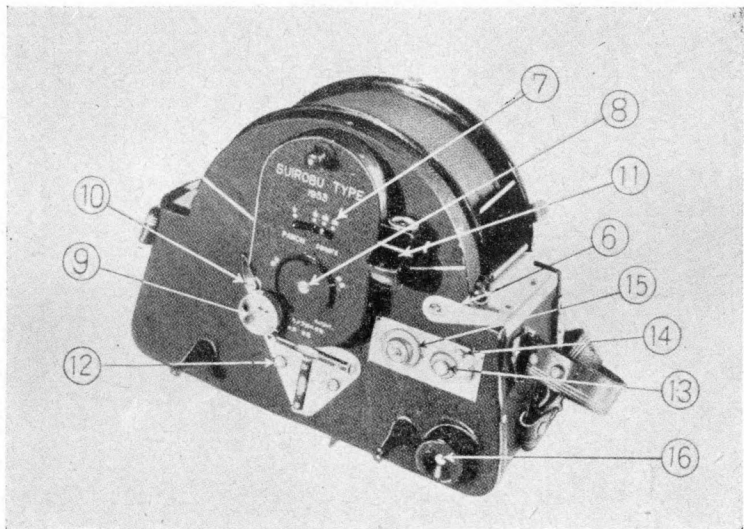


*Fig. 5.*

Front of the camera.

a. Lens section.

1. Lens : Tessar f:120 mm. F 4.5.
2. Diaphragm and distance control lever.
3. Lens filter lever (changeable).
4. Revolving hood (takes photograph revolving from the right to the left).
5. Revolving hood stopper.

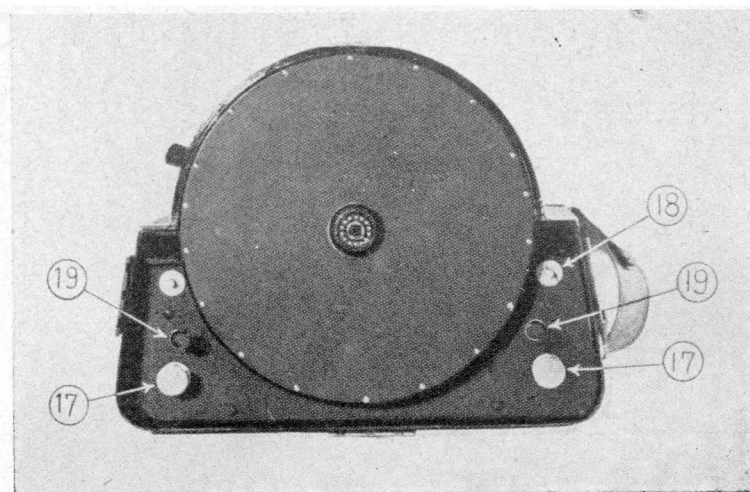


*Fig. 6.*

Upper part of the camera.

b. Operational section.

6. Shutter lever.
7. Shutter speed (1/10 - 1/400\*).
8. Start and end point indicator of shutter.
9. Shutter speed control knob.
10. Speed control knob catch.
11. View finder.
12. Level (X.Y.).

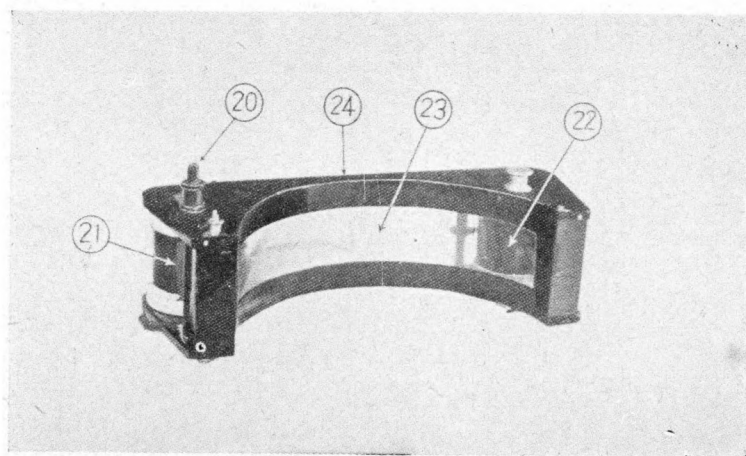


*Fig. 7.*

Inside of the camera.

c. Film section.

- 13. Coupled notch with winding knob.
- 14. Automatic winding catch.
- 15. Film number indicating knob.
- 16. Film winding knob.
- 17. Film reel holder.
- 18. Film sliding roller.



*Fig. 8.*

Film-holding frame.

d. Film-holding frame.

- 19. Film-holding frame knob.
- 20. Film-winding axis.
- 21. Film-winding magazine.
- 22. Pre-exposure film magazine.
- 23. Film wound up in semi-circle.
- 24. Film-holding frame.