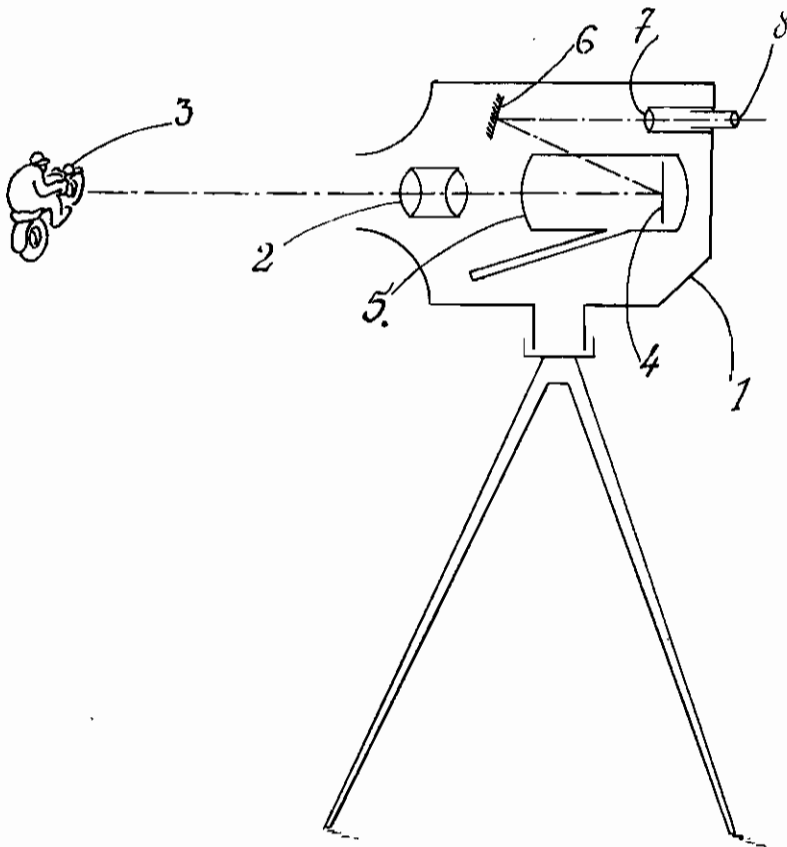


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BY A. P. C.

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Fig. 1



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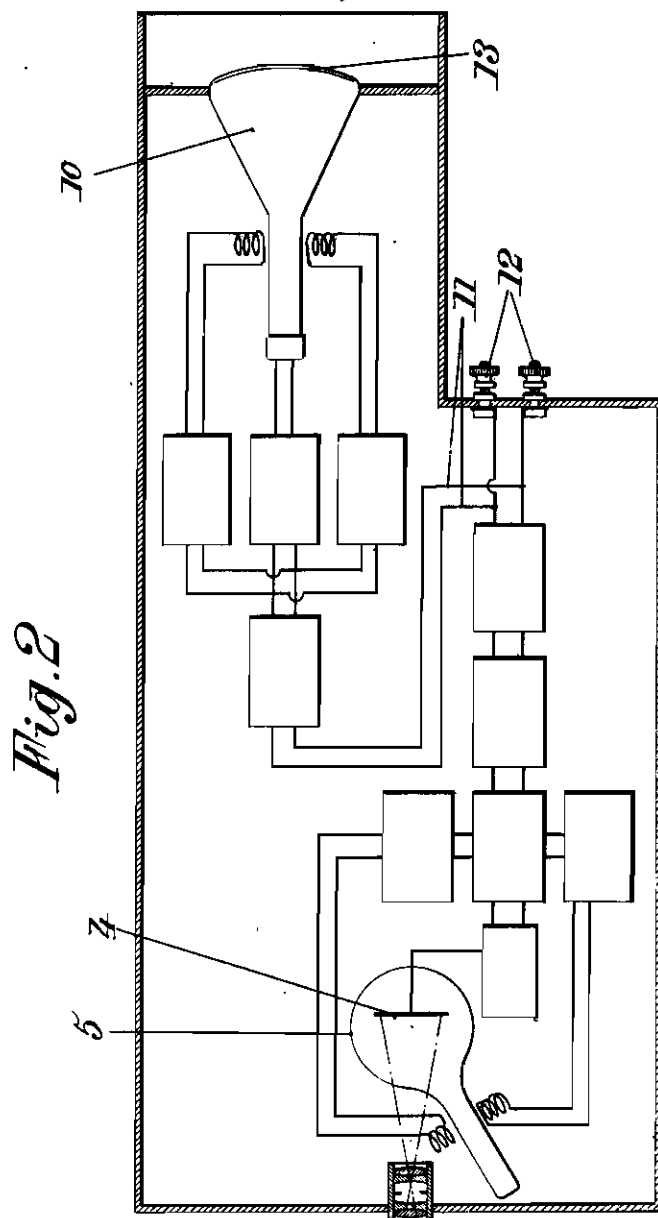


Fig. 2

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ALIEN PROPERTY CUSTODIAN

TELEVISION DEVICES

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Application filed January 30, 1942

The present invention relates to devices for effecting the focussing of images in television cameras, that is to say in cameras in which the image to be televised is to be focussed on the iconoscope mosaic or, in a more general manner, on the plane in which the scanning system, which may be of any suitable type, is working.

The object of the present invention is to provide a device of the type above mentioned which is better adapted to meet the requirements of practice, and in particular which permits an increased sharpness of the focussing of the image to be televised.

According to an essential feature of the present invention, the television system includes means for enabling the operator to observe the image formed by the objective on the iconoscope mosaic.

Other features of the present invention will result from the following detailed description of some specific embodiments thereof.

A preferred embodiment of the present invention will be hereinafter described, with reference to the accompanying drawings given merely by way of example and in which:

Fig. 1 is a diagrammatical view of a television camera including means for checking the focussing of the image made according to an embodiment of the invention.

Fig. 2 is a diagrammatical view of a television camera according to the invention, adapted to work with infra-red light.

In the following description, it will be supposed that the invention is applied to the case of a television camera of the conventional type and is intended to permit of improving the focussing thereof.

The camera proper includes, in a known manner, a chamber 1, an iconoscope 5 including mosaic 4, and an objective 2 for forming the image of object 3 on said mosaic.

In order to focus the image of object 3 on mosaic 4, objective 2 is adjusted exactly as in the case of ordinary photography.

Up to the present time, this focussing was observed and checked by means of a sighting objective parallel to the camera objective, both of the objectives being mechanically connected together in such manner that the focussing of the image formed by the sighting objective simultaneously ensures the focussing of the corresponding image formed by the camera objective on the iconoscope mosaic.

But for practical reasons, the sighting objective is always made of an aperture considerably smaller than that of the camera objective. Consequently, the checking obtained through the sighting objective is generally imperfect and does not ensure a fully satisfactory focussing of the image on the iconoscope mosaic.

In order to obviate this drawback, according to the invention, means are provided for enabling the operator to observe the image formed by the camera objective itself on the iconoscope mosaic.

It will be readily understood that this result can be obtained in many different manners either conventional or not.

Fig. 1 shows an embodiment of a device according to the invention.

In this embodiment, the camera is fitted laterally with respect to the optical axis thereof, with a mirror 6, preferably disposed in such manner that it projects in a direction substantially parallel to said axis the image formed by objective 2 on the mosaic 4 of iconoscope 5.

In order to facilitate the observation of the image in the mirror, I provide, at a suitable place (in the rear wall of chamber 2 in the embodiment illustrated by the drawing) a view finder 7 which magnifies said image and is preferably fitted with a positive eye-piece 8 which brings the image of the mirror into correct position. This view-finder 7 is focussed, once and for all, on mosaic 4, in such manner that the focussing defects which are observed are entirely due to the imperfect adjustment of objective 2.

It then suffices to adjust objective 2 until the image observed through finder 7 is well focussed. The image formed on mosaic 4 is then certainly also well focussed.

My invention can also be applied to the case in which the scene or object to be televised is illuminated by infra-red or ultra-violet light that is to say a light which does not impress human eye.

Such an illumination is sometimes to be employed for instance when it is desired to illuminate an orator in a religious or official ceremony where a visible illumination could not be admitted. In such cases, the known methods for checking the focussing of the image to be televised could not be applied.

According to the invention as illustrated by Fig. 2, instead of making use of a direct visual examination of the optical image formed on the iconoscope mosaic, I provide the camera with an auxiliary image receiving device permitting a direct vision of the images.

As shown by Fig. 2, this device includes an oscillograph or analogous receiver tube 10 which is connected in shunt at 11 with the electric circuit through which the images are transmitted at 12. The images are thus reproduced on the screen 13 of oscillograph 10 where the operator can observe an image identical to that formed in invisible light on the mosaic 4 of iconoscope 5. The operator focusses the objective of the camera by observing the sharpness of the image supplied by the auxiliary receiving device on its screen 12.

HENRI DE FRANCE,