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DEVICE TO INCREASE THE RESOLVING POWER IN PROJECTIONS ON A TRANSLUCENT SCREEN, PARTICULARLY FIT FOR PHOTOGRAMMETRIC APPLIANCES

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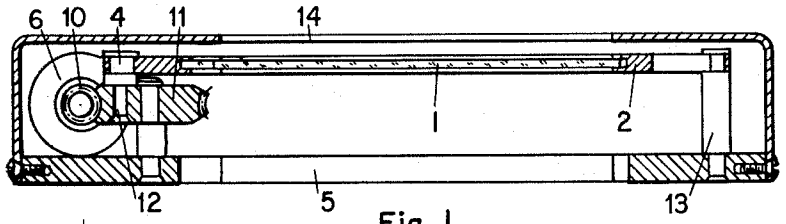


Fig. 1

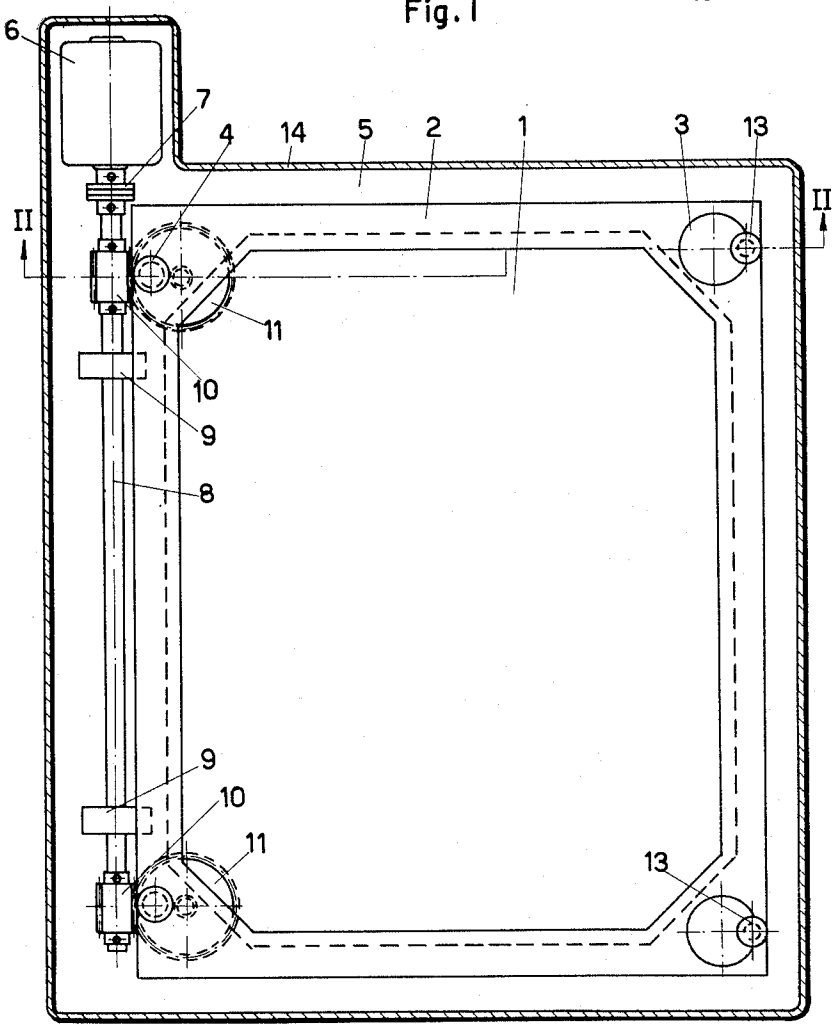


Fig. 2

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DEVICE TO INCREASE THE RESOLVING POWER IN PROJECTIONS ON A TRANSLUCENT SCREEN, PARTICULARLY FIT FOR PHOTOGRAMMETRIC APPLIANCES

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1 Claim. (Cl. 88—28.93)

There are known in photogrammetric and aerophotogrammetric instrumentations devices for diascopic projection of images on plates or films on a translucent screen, for the purpose of enlarging them properly and, observing them through transparency, to perform on them images of measurements which in this way may reach a high grade precision.

It is therefore necessary to obtain a considerable definition of the projected images, joined to an almost uniform distribution of the luminous intensity of the screen.

It is known that the definition of the projected images is the greater, the more minute the roughness is of the polish constituting the translucent surface on which the image (screen) is formed; on the other hand, however, the possibility of having the optimum of the above-mentioned uniformity of luminous intensity is the greater, the greater within a certain limit, is the roughness of this surface (diffusing capacity of the screen).

The purpose of this invention is to ensure a good definition of the projected images, also to maintain a considerable uniformity of the distribution of the intensity of the illumination of the screen. The description of the invention may more easily be followed in reference to the added illustrating design which represents, by way of a not limited example, a preferred performance. In the illustration:

FIG. 1 represents a screen mounted on a frame;

FIG. 2 is a section of the same according to the hatched plan II—II of FIG. 1.

Referring to the figures a screen is represented with such roughness as to ensure a uniform distribution of the luminosity of the image. Said screen is mounted on frame **2** on the lower end of which are made two holes **3**, while at the upper end two pivots **4** are fitted free to turn in their proper seats.

On a supporting plate **5** the motor **6** is fitted of which the turning shaft is made conjoint, by means of a joint **7**, with shaft **8** turning in the bearings **9**.

In the positions shown in the drawing two endless screws **10** are keyed on shaft **8** in play with as many helicoidal wheels **11**. The pivots **4** fitted on frame **2** are clutched in seats **12** eccentrically arranged in the helicoidal wheels **11**.

Two pivots **13** are fixed in the holes **3** and made conjoint with plate **5**. The arrangement of pivots **13** and the size of the holes **3**, taking into account the eccentricity of pivots **4** with respect to the helicoidal wheels **11**, are such as to allow the frame **2** and therefore the formation plan of the projected image, a uniform circular movement of which the trajectory, by virtue of the flanges of pivots **13**, constantly will be on the layer located by the above-mentioned collection plan of the projected image.

A cover **14**, whilst it protects the mechanical parts in movement, prevents the observer from seeing this, so that the projected image on screen **1** appears to him clear and perfectly defined. In fact, owning to the movement of screen **1**, the effect of the roughness of the translucent screen, will be of less influence to the clearness of the image and therefore the image will turn out to admit the relief also in the smallest details. Moreover, the considerable grade of roughness which it was possible to adopt for the translucent surface of the screen, will permit to observe the projected image, endowed by luminous intensity almost uniform from the centre to the margins of the drawing.

The variations of a constructive character which might be applied to the described device will fall into the field of protection of the invention every time that the same inventive conception here exposed would be carried out to reach equal or similar results.

What I claim is:

An optical device, comprising a single translucent screen having a rough surface and adapted to receive a projected image, a frame carrying said screen and having two upper corner portions and two lower corner portions, two symmetrically disposed pivots mounted in said upper corner portions, a supporting plate, a motor carried by said plate, an elongated shaft driven by said motor, two endless screws keyed upon said shaft, two helicoidal wheels meshing with said screws, each of said pivots being eccentrically mounted in a separate helicoidal wheel and being rotatable therewith, said two lower corner portions having circular symmetrically disposed uniform holes, and two pivots mounted in said plate, the two last-mentioned pivots engaging the side walls of said holes and having diameters which are smaller than those of said holes.

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