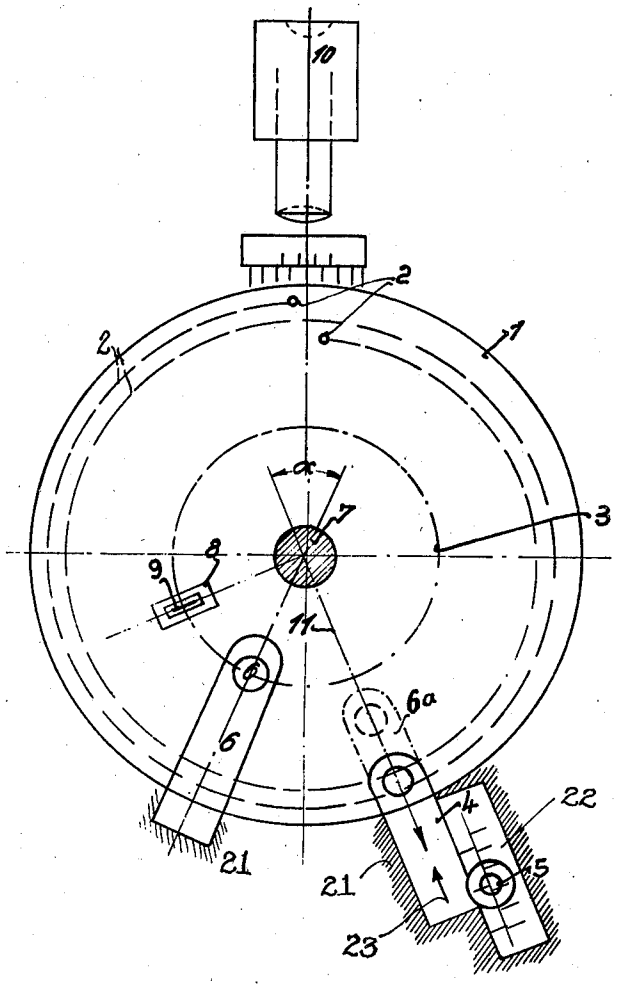
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SCANNING DISK MANUFACTURING DEVICE

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SCANNING DISK MANUFACTURING DEVICE

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3 Claims. (Cl. 164—87)

It is known that the generation of synchronisation impulses in television transmitters using a Nipkow having one or more spirals of scanning apertures yields a steady image on the receiver only if the synchronisation impulses start at the passage of the scanning apertures through the edge of the frame. It has been found particularly convenient for obtaining a steady image to furnish the scanning disk itself with a second division, a ring of slots or holes, which causes the interruption of a special ray of light and thus, as a photo-electric siren, produces the synchronisation impulses.

It has been shown in practice that indeed in this way an image is obtained which is perfectly steady in the direction of the lines, but which in the vertical direction always appears curved or serrated. The reason is that until to-day it was impossible to blank out two aperture divisions of the same circular disk so that they exactly correspond point for point one to the other. For example, in a four-spiral disk for 400 lines two image points have an interval of 3.6°. Since the inexactitude of the start of a synchronisation impulse needs to be less than one image point, the synchronisation holes should be blanked out with an accuracy amounting to

$$\frac{3.6}{400}=30$$

arc seconds. This, on a disk having the usual diameter of approximately 50 cm., means a peripherical length of approximately 40μ.

The invention will fully appear from the following description in which reference will be made to the accompanying drawing, which is a front view of the device for punching the apertures in the disk.

The disk 1 which is to be furnished for example with a double spiral 2 of scanning apertures and a ring 3 of synchronisation slots is fixed on the revolving table 20 of a circle-dividing machine of any kind known per se, which permits of an accuracy of approximately 10 arc seconds. On the fixed table 21 there is provided a stamping device 4 with stamp 14 which blanks out the scanning apertures 9 having a centre line 2 and a second stamping device 6 with stamp 16 for blanking out the synchronisation slots 8 having a centre line 3, the angle between both thus being invariable.

According to the invention, the device 4 is shiftable in radial direction as indicated by arrow 23 under the control of a scale 22 and a microscope 5 in order to produce the slope of the spiral. Both kinds of apertures are blanked out, as known per se, not of the thick sheet metal of the disk itself but of a very thin metal foil, preferably of copper foil, which is soldered or welded over larger openings of the disk blanked out beforehand. The method of manufacturing the double divisioning is such that at first, by means of a microscope 10, there is set in the known fashion the correct angle of division. In this position the dividing machine is fastened at the axis 7 and the stamp 4 adjusted to the correct radius by means of 22 and 5. There are then blanked out of the foil simultaneously the scanning aperture at 4 and the synchronisation slot at 6. The synchronisation holes stamp 6 may be disposed on the same radius 11 as the scanning apertures stamp 4 or they may be displaced by an angle α as designed.

I claim:

1. In a television art a device for manufacturing a scanning disk provided with a spiral of scanning apertures and an equal number of slots for producing synchronizing impulses, said device comprising a dividing machine having a revolving table on which said disk is fixed and means to set the table to certain angles, two stamps for blanking out at once one of said apertures and the appertaining one of said slots, said stamps being fixed to the base-plate of said machine and displaced to one another at a fixed angle, that of said stamps for blanking out said apertures being shiftable in radial direction.

2. In a television art a device for manufacturing a scanning disk provided with a spiral of scanning apertures and an equal number of slots for producing synchronizing impulses, said device comprising a dividing machine having a revolving table on which said disk is fixed and means to set the table to certain angles, two stamps for blanking out at once one of said apertures and the appertaining one of said slots, said stamps being fixed to the base-plate of said machine at the same radius, that of said stamps for blanking out said apertures shiftable in radial direction.

3. In a television art a device for manufacturing a scanning disk provided with a multiple spiral of scanning apertures and an equal number of slots for producing synchronizing impulses, said devices comprising a dividing machine having a revolving table on which said disk is fixed and means to set the table to certain angles, two stamps for blanking out at once one of said apertures and the appertaining one of said slots, said stamps being fixed to the base-plate of said machine and displaced to one another at a fixed angle, that of said stamps for blanking out said apertures being shiftable in radial direction.

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