2. Light-optical systems

Figure 54 shows the diagram of the optical-image system of the printer machine Matipo CS-Debrie. The system consists of the light source 1 located in the mirror focus 2, which serves to increase luminous efficiency. Further, the calorific filter 3 is disposed, which protects the rest of the heat elements emitted by the light source. Follow the light fixture 4 and forfiltr 5, which are means of quantitative and qualitative change of the light flux required by the calibration process. The matt glass 6 contributes to increasing the uniformity of illumination in the window copying between the matt window and the window is the flat-convex lens 7 that concentrates the flow luminous.

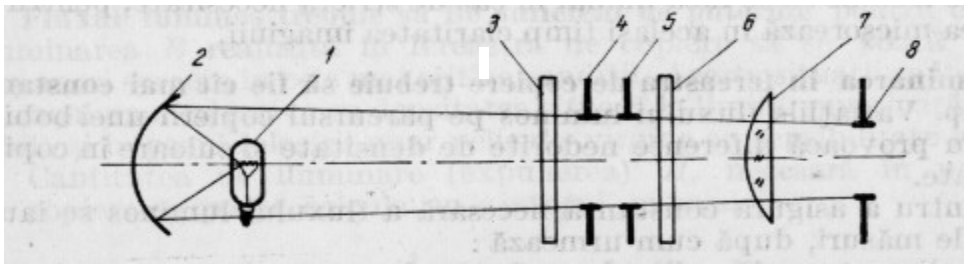

Fig. 54. Picture of the Matipo CS-Debrie printer system.

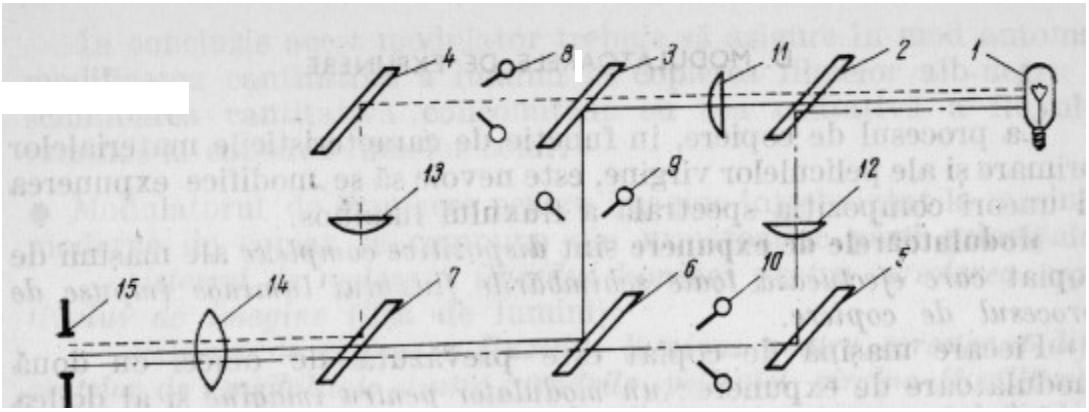

Fig. 55. Scheme of the light-optical system of the Bell-Howell color additive printer.

Figure 55 shows the principle of the optic light system for copying image from the Bell-Howell printer machine. Flow of white light emitted by the lamp 1 is decomposed into three elemental indigo, green and red streams by dichroic mirrors, interference, semitransparent 2, 3,5, 6 and 7. These elementary flows are modulated by means of valves 8, 9 and 10 and lens concentrates 11, 12 and 13. Finally, the three streams are remixed via the capacitor in the copy window 15.

It should be noted that the six dichroic mirrors that transmit and reflect light in a differentiated way depending on the wave length as well as the valves, which modulate quantitatively each elementary flow, are means for adjusting the light flux required by the process of calibration of the films.

Observation. The light-optical systems for printing phonograms through contact are more simple from a constructive point of view because of the smaller copy window. into the this case requires the use of blue filters and a luminous flux as collimated as a

minimizes the diffusion of light into the emulsion of the film.
Note.
On all light-optical systems where more power is used large (over 250 W), the lanterns are equipped with a cooling system. It consists of a fan cooling the light source, avoiding overheating of the components light-optical system.