May 19, 1931. G. LANE 1,805,948

MOTION PICTURE PRINTING MACHINE

Filed June 27, 1928

Fig. 1.

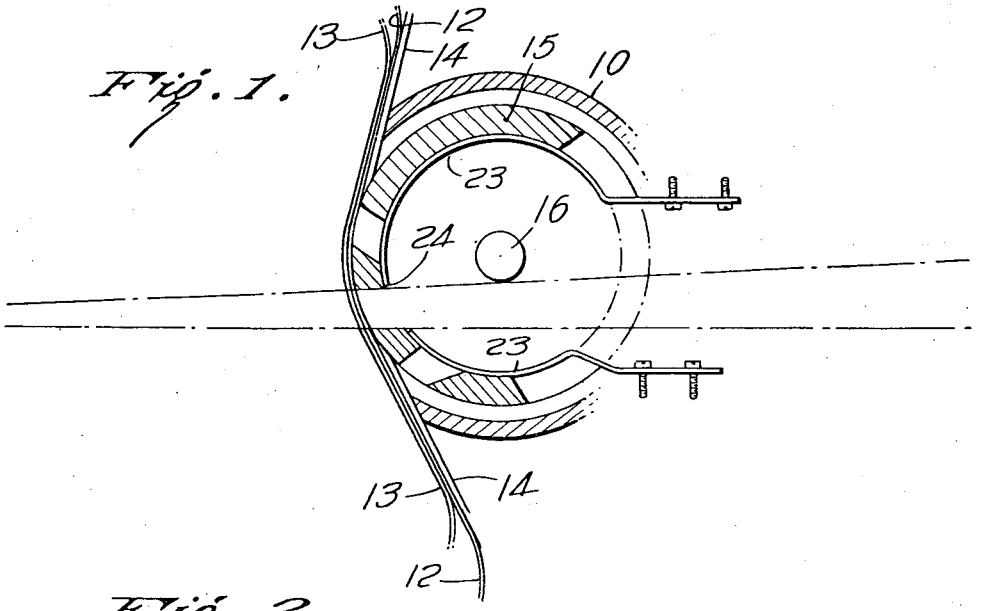


Fig. 2.

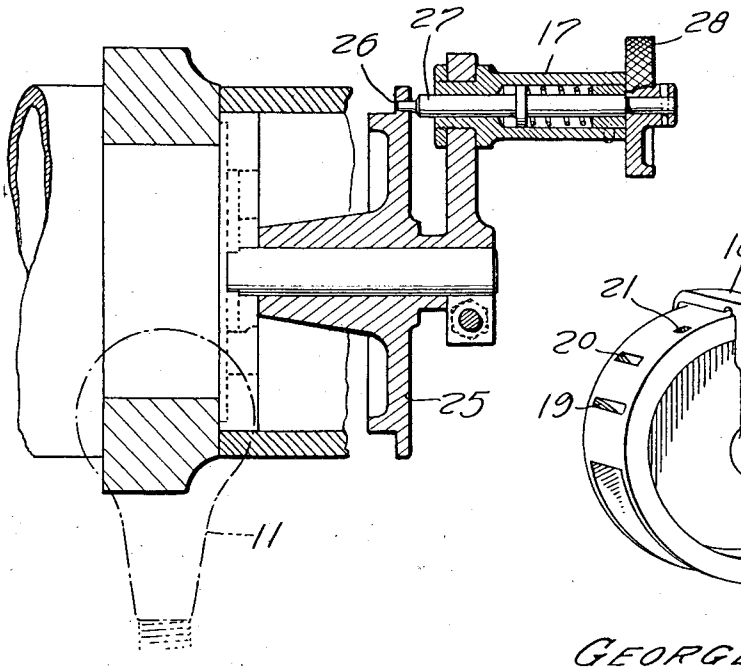
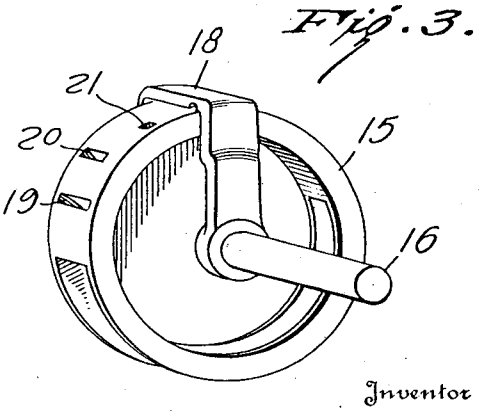


Fig. 3.



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UNITED STATES PATENT OFFICE

GEORGE LANE, OF POUGHKEEPSIE, NEW YORK, ASSIGNOR, BY MESNE ASSIGNMENTS, TO AUDIO-CINEMA, INCORPORATED, OF LONG ISLAND CITY, NEW YORK, A CORPORATION OF NEW YORK

MOTION PICTURE PRINTING MACHINE

Application filed June 27, 1928. Serial No. 288,695.

This invention relates to a device for printing or producing positive motion picture film of the type carrying synchronized sound records.

It is well known that usually the printing of the sound record cannot be done at the same time as the printing of the picture record, but on the contrary, must be accomplished as a separate operation. In addition, as the sound and picture records occupy different parts of the film strip, one portion must be shielded from the light while the other is being printed, and vice versa.

This invention, therefore, has as its principal object, the provision of means in connection with a commercial form of continuous printer, which will carry a plurality of selective apertures, so that by adjusting the proper aperture in position, the same machine may be used for printing the sound and picture records, with minimum movement of machine parts.

To this end the invention contemplates the provision in a standard continuous printer of the type used for producing positive sound and picture records, of an aperture ring having thereon a plurality of apertures of different widths and extents, so arranged in relation to the printing aperture, that one of the ring apertures may be made to occupy the desired position for printing either the sound or picture records, as desired.

In the drawings:

Figure 1 is a side elevation partly in section of a device embodying the invention.

Fig. 2 is a front view partly in section.

Fig. 3 is a perspective of the aperture ring.

Referring now to the form illustrated, there is indicated at 10 a portion of the housing of the printing machine through the front of which the lamp 11 throws a beam to print the record.

A negative film strip is shown at 12 and the positive at 13 upon which the record is to be printed. These two strips are fed to the printing aperture of the housing in the ordinary manner, passing between the film guide 14 and the aperture ring 15.

The ring 15 is suitably mounted adjacent the printing aperture and within the housing so that it may have rotation about its axis shaft 16 under impulse of the handle 17.

The shaft 16 carries a yoke 18 in engagement with the periphery of the ring 15 so that the ring may be rotated by movement of the handle.

The ring proper is provided with a plurality of apertures therein such as shown at 19 used to print standard pictures, as this aperture extends the full width of the film; the aperture 20 to print the picture record only; and the aperture 21 to print the sound record only. Inner opaque strips 23 having their ends spaced apart as at 24 prevent the escape of light from the housing and through the superimposed film strips, except through the aperture in the ring, which at that time coincides with the space 24.

A closure disc 25 surrounds the shaft 16 and is provided on its periphery with a plurality of sockets 26 corresponding to the number of apertures in the ring. A spring pressed plunger 27, carried by the handle 17, may be made to seat in any of the sockets 27 by movement of the knurled knob 28.

Preliminary to any printing process, requiring a certain ring aperture, the ring 15 is moved until the proper aperture therein is in position by seating the plunger 27 in the appropriate socket. This adjustment having been made, the above mentioned connections hold the ring in a stationary position throughout the operation. The presence of the strips 23 prevent printing through any aperture other than that which is located between their ends.

It will be apparent that with such a device, the machine may do either work and that the change from a sound printer to a picture printer may be done almost instantly and with ease.

What I claim is:

1. In a film strip printing machine, means having a printing aperture for the passage of light to the film, and means controlling

the passage of light through said printing aperture comprising a member adjustable relative to said printing aperture, said member having a plurality of apertures spaced apart along the same and out of alignment in respect to the direction of the movement of adjustment of said member thereof, said member when adjusted bringing said apertures to register separately with the printing aperture for printing upon areas of said film which are disaligned longitudinally thereof, one area being for the motion pictures and the other for the sound track, substantially as described.

2. In combination, arc-shaped means having a printing aperture for the passage of light, a ring contacting with and movable circumferentially about the outer side of said arc-shaped means, said ring having an aperture through which the motion pictures are printed and a second aperture spaced apart along the ring from the first mentioned aperture near the margin of said ring and disaligned longitudinally of the ring in respect to the first mentioned aperture, for printing the sound track on the film, out of line with the pictures, means for guiding the film strip to the ring and means for adjusting the ring circumferentially to make its aperture separately register with the printing aperture.

In testimony whereof, I affix my signature.

GEORGE LANE.