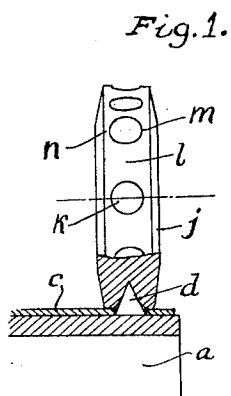
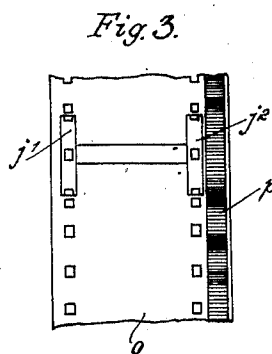
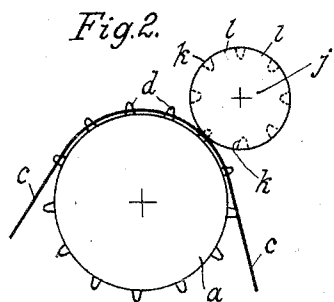


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H. KÜCHENMEISTER  
FILM ADVANCING APPLIANCE

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## UNITED STATES PATENT OFFICE

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## FILM ADVANCING APPLIANCE

Application filed June 23, 1928, Serial No. 287,845, and in Germany June 24, 1927.

My invention relates to film advancing appliances comprising a guiding roller and a holding roller, and it is an object of my invention to provide an appliance of this kind in which the liability of damage to the film is reduced to a minimum.

To this end, I reduce the width of the holding roller so that it engages the film only in the vicinity of its perforations.

Holding rollers as designed heretofore are so wide that the effective area of the film, that is, the area containing the picture, is liable to be damaged.

This drawback is eliminated in my invention by reducing the width of the holding roller so that it will engage the film only in the area of its perforations, and substantially only in those parts which are intermediate the perforations.

In a preferred embodiment of my invention I provide a holding roller having depressions the pitch of which is equal to that of the projections on the guiding roller and which are entered by such projections, and I round off the edges of such depressions.

My invention is particularly important for "speaking films" as the sound records are generally arranged in the vicinity of its perforations and, as a rule, inside or outside such perforations.

In the accompanying drawings, appliances embodying my invention are illustrated diagrammatically by way of example.

In the drawings

Fig. 1 is a section showing one end of the new appliance.

Fig. 2 is an end elevation.

Fig. 3 is an elevation of an appliance according to my invention for a film having a sound curve at one side of its perforations.

Referring first to Fig. 1, *a* is a guiding roller, *c* is a film having perforations *b*, *d* are projections on the guiding roller engaging the perforations *b*, *l* is a holding roller, *k* are holes or depressions on the periphery on the holding roller, and *m*, *n* are treads on either side of the depressions *k*. A beveled face upon each lateral wall of the roller is indicated at *j*, whereby the holding roller is in contact with the film *c* principally between

its depressions. Thereby harm to either the picture or sound record is prevented.

Referring now to Fig. 3, this shows a "speaking" film *o* having a sound or speech record *p* at one side, and two holding rollers *j'* and *j''* with depressions as described. It will be seen that the rollers do not come into contact with the record *p* on account of their reduced width, and contact with the film *o* only on a small area.

I claim:

1. An advancing appliance for a combined picture and sound record upon a film having perforations at its sides only, a guiding roller for said film having projections thereon for engaging said perforations in the film and advancing said film, two holding rollers having holes therein disposed upon the side of the film opposite the guiding roller and cooperating with said projections upon the guiding roller, said holding rollers being beveled upon the lateral walls thereof adjacent their peripheries whereby the peripheral surface of said rollers contacting with the film is confined to a width not substantially greater than the diameter of said holes.

2. An advancing appliance for a combined picture and sound record upon a film having perforations at its sides only with the sound record beyond the perforations, a guiding roller for said film having projections thereon for engaging said perforations in the film and advancing said film, two holding rollers having perforations therein disposed upon the side of the film opposite the guiding roller and cooperating with said projections upon the guiding roller, said holding rollers spaced apart a lesser distance than the width of the film, and beveled upon the lateral walls thereof adjacent their peripheries, whereby the peripheral surface of said rollers contacting with the film is confined to a width not substantially greater than the diameter of said holes.

In testimony whereof I affix my signature.  
HEINRICH KÜCHENMEISTER.