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PRESSURE ROLLER FOR FILM HANDLING APPARATUS

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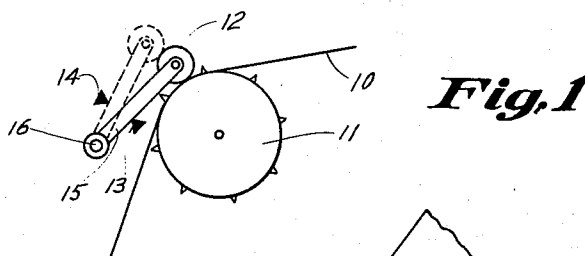


Fig. 1

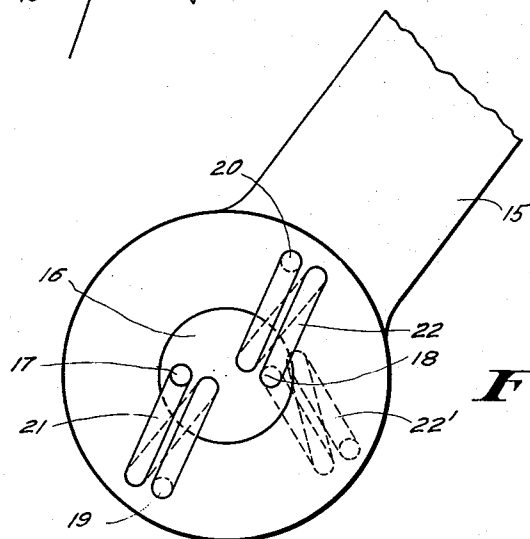


Fig. 2

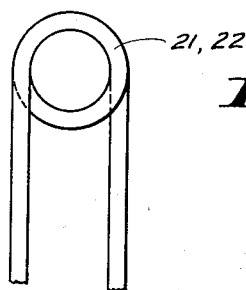


Fig. 3

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PRESSURE ROLLER FOR FILM HANDLING
APPARATUSHermann Freese, Berlin-Reinickendorf, Germany,
assignor to Klangfilm G. m. b. H., Berlin, Ger-
many, a corporation of GermanyApplication August 6, 1935, Serial No. 34,877
In Germany February 10, 1934

1 Claim. (Cl. 74-240)

This invention relates to film handling appa-
ratus such as sound motion picture recorders or
reproducers, and has for its principal object the
provision of an improved means for controlling
the operation of a pressure roller which func-
tions to maintain the film in contact with the
sprocket wheel.

In apparatus for the recording, reproduction
or printing of films, guide or presser rolls adapt-
ed to be lifted away on hinges or pivots are
known in the art. Such rollers are provided for
the purpose of preventing the film strip from
jumping out of the teeth of the sprocket wheel,
and they are pressed against a stop subject to
spring pressure. When hinged away, the swivel
lever of this roll also bears on a stop subject
to the pressure exerted by a spring. The presser
rolls under operating condition press the film
strip, for instance, against a stationary glide
path or a revolving toothless roller, and when
hinged away they also come to be supported
yieldingly against a stop.

The invention is concerned with an arrange-
ment of the springs associated with rollers of
the said sort, the outstanding feature of the dis-
closure being that the pivots of the hinged roll-
ers are relieved of all spring pressure.

The invention will be better understood from
the following description when considered in con-
nection with the accompanying drawing and its
scope will be pointed out in the appended claim.

Referring to the drawing,

Fig. 1 illustrates different positions of the
pressure roller, and

Figs. 2 and 3 illustrate various details of its
support.

Before going into details of an exemplified
embodiment of this invention, the arrangement
of the guide rollers as known in the prior art
shall again be briefly explained by reference to
Fig. 1. 10 denotes the film strip, 11 is a sprocket
wheel. The guide roll 12 when in its working
position bears against stop or rest 13, while
when hinged off as indicated by the broken lines

it comes to bear against the stop 14. In both
of these limiting positions, spring forces come to
act upon the oscillable lever whereby the neces-
sary pressure against the stops is set up.

An exemplified embodiment according to the
invention of a spring arrangement in the rocker
point or fulcrum 16 of the rocker lever 15 is
illustrated in Fig. 2. As shown in the drawing,
two holes 17 and 18 are formed in the fulcrum or
pivot 16, while two other holes are formed at
19 and 20 in the rocker lever 15. Engaged in
the two holes 17 and 19 and in holes 18 and 20
are the beginnings and the ends of two springs
21, 22; the ends of these are substantially paral-
lel, and parallel substantially to the median line
of the rocker fulcrum 16. These springs are
shown separately in elevation in Fig. 3. The
forces which are brought to act, for example, by
the spring 21 upon the rocker fulcrum or pivot
16 and the rocker lever 15 comprise a radial and
a tangential component. The latter component
furnishes the requisite bearing pressure against
the stops 13 and 14, while the radial component,
in the case mentioned, is neutralized by the op-
positely directed radial component of the spring
22. When the rocker 15 is turned, the spring 22
comes to occupy the position 22' indicated by the
broken lines, with the result that the tangential
component is caused to reverse its direction so
that the requisite bearing pressures against the
stops 13 and 14 are produced.

I claim:

In combination, a sprocket, a pressure roller
adapted to cooperate therewith, an arm movably
supporting said pressure roller, a pivot for said
arm and a spiral spring normally compressed in
a non-radial direction between said pivot and
said arm for maintaining said roller either in co-
operative relation with said sprocket or away
therefrom, the said spring having straight ex-
tensions at its ends extending into holes in said
pivot and said arm parallel with the axis of ro-
tation.

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