March 13, 1951 T. ÖRTENBLAD ET AL 2,545,004

FILM REEL

Filed Nov. 23, 1948

FIG. 1

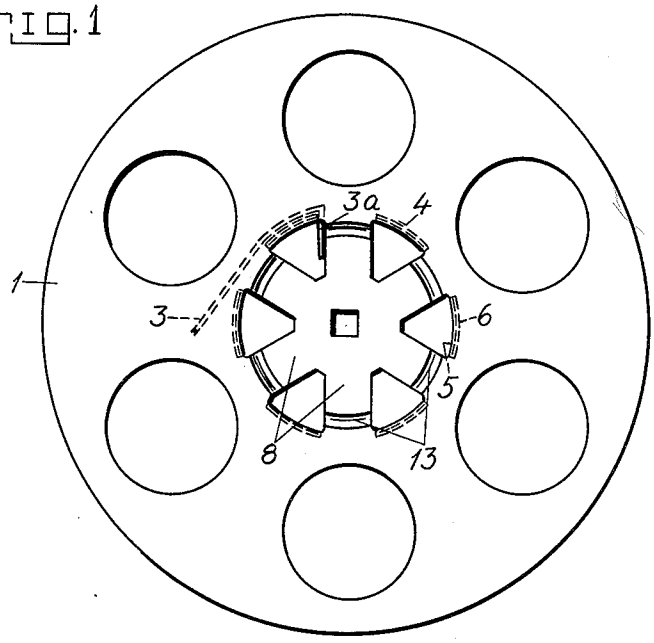


FIG. 3

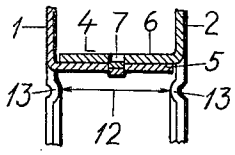


FIG. 2

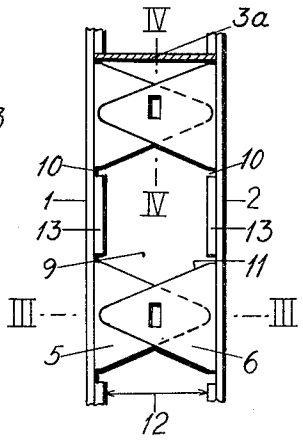
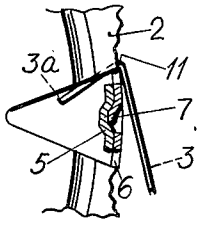


FIG. 4



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FILM REEL

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4 Claims. (Cl. 242—70)

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This invention relates to certain novel improvements in film reels used for winding up film bands.

The main object of the invention is to provide a film reel of a suitable design easy and cheap to manufacture.

Another object of the invention is to provide a locking device for temporarily locking one end of the film band to the reel and securing said band end to the reel in a fully reliable manner.

Another object of the invention is to provide a film reel with a locking device for the film band end said device being made integral with the film reel.

A further object of our invention is to combine the locking device with the circular path or hub of the film reel on which the film band is to be wound and using this path or hub as a part of the locking device.

Other objects will appear hereinafter.

The invention consists in the novel construction of the film reel, two circular wheel disks of the reel being held together by bridges constituting the winding path or hub for the film band and spaced in reference to each other to form openings between them, the cross directed edges of the bridges being parts of the locking devices for the film band end.

The invention will be best understood by reference to the accompanying drawing, showing the preferred form of construction and in which:

Fig. 1 is a side view of the film reel;

Fig. 2 is a fragmentary plan view on a somewhat larger scale;

Fig. 3 is a cross section along the line III—III in Fig. 2; and

Fig. 4 is a longitudinal section along the line IV—IV in Fig. 2.

The film reel is built up of two thin circular wheel disks 1, 2 parallel to each other and with a space between them corresponding to the width of the film band 3. The disks are held together by a cylindrical winding path or hub 4 for the film band, so that this band can be wound up between the walls of the disks.

In the embodiment shown the winding path 4 is constituted by tongues 5, 6 which are pressed out of the disks and bent inwardly to overlap each other as well as locked together constituting bridges between the disks. In overlapping each other the tongues are slightly declined to the walls of the disks and thus the advantage is obtained that the disks can be stamped out of a metal sheet identical to each other and by means of the same pressing tool. In each pair of the tongues 5, 6 the locking of the tongues to each

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other is obtained in an extremely simple way by punching radially a small central portion 7 of the one tongue into the other. As the tongues are pressed out of the disks there will be no waste of material and wheel spokes 8 thereby are formed in the disks which will enhance the appearance of the reel. At the same time openings 9 are left or provided in the winding path between the tongue pairs which is of importance for the locking of the film band end to the reel as will be seen hereinafter.

The film reel is provided with locking devices for the one end of the film band. In the preferred embodiment said locking devices are constituted by the cross directed edges of the bridges in combination with internal arcuate rib-like parts 13 arranged to reduce the space between the disks. This reduced space 12 between the walls of the disks 1, 2 is less than the width of the film band 3 and constituted by arcuate rib-like parts 13 in the wheel spokes 8 lying near and beneath the openings 9 and ending in the radial edges of the spokes. Such grooves can be made in one, more or all of the spokes, the last case being of advantage as the film band end then can be locked in any of the openings 9. As seen in Fig. 2 edge recesses 10 for the film band are formed between the cross edges 11 of the bridges 5, 6 and the ends of the rib-like parts 13.

As the film band end 3a is pressed down by a finger into one of the openings 9 and bent over the edge thereof the longitudinal edges of the band will scrape against the ribs which will cause the band end to form a ground bow in the cross direction until the band end passes the ends of the ribs where the band end will resume its original plane surface.

As seen in Figs. 2 and 4 the ends of the rib-like parts 13 at the radial edges of the spokes 8 will bear against the surface of the film band end and the cross edge of the corresponding bridge will bear against the opposite side of the same. Thus the ends of the rib-like parts will prevent the film band end to bend upwardly at the comparatively light pull that the film band will be subjected to during the winding of the film band on the winding path or hub 4. When the film band is to be removed a stronger pull causes the band end to be squeezed out through the narrowing 12 into the wider portion of the opening 9 free from the reel. The arrangement of the narrowings combined with the cross edges of the bridges means an extremely simple, reliable and practical construction for a temporary locking of the film band end to the reel.

While we have illustrated and described the

preferred form of construction, this is capable of variation and modification, without departing from the spirit of the invention. All sorts of impressings can be used to produce the narrowings between the two disks of the reel as well as attached parts. We therefore do not wish to be limited to the precise details of construction set forth, but desire to avail ourselves of such variations and modifications as come within the scope of the appended claims.

Having thus described our invention what we claim as new and desire to protect by Letters Patent is:

1. A film reel comprising two circular wheel disks, bridges between the disks holding them together and constituting a cylindrical winding path for a film band and leaving openings between the bridges, tongues pressed out of the disks, opposite tongues overlapping each other and being connected to each other in pairs constituting the bridges, locking means for the film band end inserted into one of the openings, said locking means formed by recesses between the disks adjacent to the cross edges of the bridges to bear against the surface of the film band end bent inwardly over the cross edge of the corresponding bridge.

2. A film reel comprising two circular wheel disks, bridges between the disks holding them together and constituting a cylindrical winding path for a film band and leaving openings between the bridges, tongues pressed out of the disks, opposite tongues overlapping each other and being connected to each other in pairs constituting the bridges, locking means for the film band end inserted into one of the openings, said locking means formed by recesses between the disks adjacent to the cross edges of the bridges to bear against the surface of the film band end bent inwardly over the cross edge of the corresponding bridge, said locking means consisting of impressions in the disks.

3. A film reel comprising two circular wheel disks, bridges between the disks holding them together and constituting a cylindrical winding path for a film band and leaving openings between the bridges, tongues pressed out of the disks, opposite tongues overlapping each other and being connected to each other in pairs constituting the bridges, locking means for the film band end inserted into one of the openings, said locking means formed by recesses between the disks adjacent to the cross edges of the bridges to bear against the surface of the film band end bent inwardly over the cross edge of the corresponding bridge, said locking means consisting of impressions in the disks formed as arcuate ribs.

4. A film reel comprising two circular wheel disks, bridges between the disks holding them together and constituting a cylindrical winding path for a film band and leaving openings between the bridges, locking means for the film band end inserted into one of the openings, said locking means formed by recesses between the disks adjacent to the cross edges of the bridges to bear against the surface of the film band end bent inwardly over the cross edge of the corresponding bridge.

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