

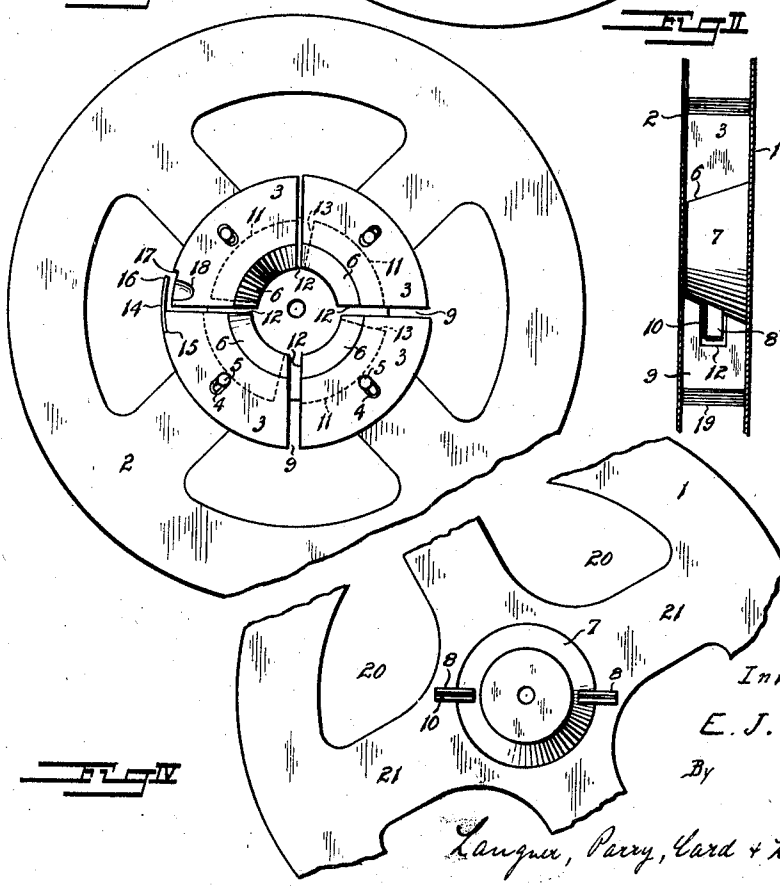
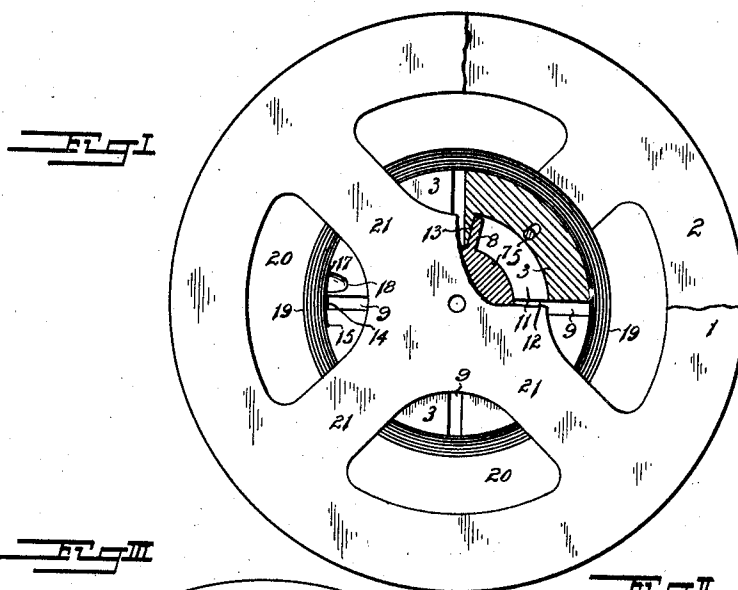
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E. J. WAY

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REEL FOR CINEMATOGRAPH FILM AND THE LIKE

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REEL FOR CINEMATOGRAPH FILM AND THE LIKE.

Application filed September 14, 1922. Serial No. 538,257.

To all whom it may concern:

Be it known that EDWARD JOHN WAY, a British subject, residing at Cullinan Buildings, Simmonds Street, Johannesburg, Transvaal Province, Union of South Africa, has invented certain new and useful Improvements in Reels for Cinematograph Film and the like, of which the following is a specification.

The present invention has reference to reels for cinematograph film and the like, of the kind in which one reel cheek is detachable to permit a film coil to be removed from the reel or placed thereon, and having also an expansible core.

The invention provides a reel in which the expansion of the core to the required size is very accurately effected in a simple manner, so that coils formed thereon are all of the same internal diameter, as is desirable in non-rewind apparatus which delivers film without tension from the interior of the coil; and so also that a ready-formed coil placed thereon can be firmly held by expanding the core, without danger of straining the film. The invention also provides for the parts of the reel to be locked together in a simple manner, which enables it to be readily removed. The invention further includes an automatically releasing grip for the leading end of the film.

Fig. I. is a side view of the reel assembled and with a film coil in place, the figure being partly in section.

Fig. II. is an edge view partly in section, of the reel of Fig. I.

Fig. III. is a side view with the front cheek removed.

Fig. IV. shows the inner face of the front cheek.

1 indicates the front cheek and 2 the back cheek of the reel. The core consists of several separate segments 3 of a cylinder, each segment being radially slotted at 4 to slide on a pin 5 fixed to the cheek 2. The core is formed with a central conical bore 6, and a cone 7 of similar form is fixed on the inner face of the front cheek 1.

The core is expanded by pushing the cone 7 into it. The cheek 1 comes in contact with the end of the core, as appears from Fig. II., and definitely determines the pene-

tration of the cone into the core, so that the latter is always expanded to the same diameter.

The means for providing rotational engagement between the two parts of the reel and for locking them together, operate, independently of the expansion of the core by the cone, that is to say, their movement for effecting rotational driving engagement and locking is circumferential and therefore does not affect the extent of the penetration of the cone into the core. The means shown for this purpose comprise wings 8 extending radially from the cone 7. These are adapted to pass into the spaces 9 between the core segments, and their edges 10 are bevelled to facilitate their entrance into said spaces. Each of the core segments is formed with an internal arcuate slot 11, open at one end 12 and closed at the other end to form a stop 13. When the cone 7 has been pressed into the core and the wings 8 have entered a pair of opposite openings 9, the cheek 1 is turned to rotate the wings 8 into the adjacent slots 11 and against the ends 13 thereof, as shown in Fig. I. The cheeks 1 and 2 are thus held against lateral separation and rotate together, whilst also the core is expanded. As it is sometimes necessary for the operator to turn the reel by hand, for example, in the event of slipping of the friction clutch which drives the lower collecting spool of a cinematograph, the direction of the rotational movement of the front cheek 1 to cause the wings 8 to lock is the same direction as that in which the reel revolves when on the machine. In the example illustrated, such movement is in a counter-clockwise direction viewed from the front of the reel.

The gripping device for the leading end of the film consists of a spring 14 fixed at one end in a shallow recess 15 to one of the core segments and with its free end 16 overlapping a similar recess 17 in the next segment. A thumb groove 18 is cut beneath the recess 17 to enable the end 16 of the spring to be lifted.

The spring 14 is so shaped that when the core is expanded its free outer end 16 presses on the surface of the recess 17. The film is clipped to the reel by lifting said free end

16 of the spring, inserting the film end beneath it, and allowing the spring to close on to said end.

When it is desired to remove a film coil 19 which has been wound on the reel, the cheek 1 is rotated clockwise to bring the wings 8 out of the slots 11 and the cheeks 1 and 2 are parted. The core 3 can thereupon be collapsed free from the inner surface of the coil 19, thus also relieving the pressure between the end 16 of the spring 14 and the next core segment, so that the film end is released and the coil may be withdrawn from the reel.

The core is shown as formed of four segments 3, between either pair of which the wings 8 can be inserted. The front cheek 1 is correspondingly formed with four apertures 20, so disposed in regard to the wings 8 that when the front cheek has been rotated to the full locking position, as in Fig. 1., its spokes 21 clear the end of the spring 14 and leave it free to be lifted for the insertion of the film end.

I claim—

1. A reel for cinematograph film and the like consisting of two cheeks, core segments mounted for radial movement on one cheek, a cone on the other cheek adapted to enter and expand said core, and co-acting parts on the cheeks locking the same for rotational movement and also against axial separation,

said parts being arranged thus to co-act upon relative rotational movement of the cheeks after the core has been fully expanded by the cone.

2. A reel for cinematograph film and the like consisting of two cheeks, core segments mounted for radial movement on one cheek and formed with arcuate slots, a cone on the other cheek adapted to enter and expand said core, and wings on the cone adapted to register with the open ends of said slots when the cone is fully within the core, and thereafter to be engaged in the slots by relative rotation of the cheeks.

3. A reel for cinematograph film and the like, consisting of two cheeks, core segments mounted for radial movement on one cheek, means on the other cheek for expanding said core and for locking the reel parts together by relative rotational movement of the cheeks, and a spring secured at one end to one of the core segments, the other end of the spring being free and adapted to press on the adjacent core segment when the core is expanded, a cheek being apertured to give access to said free end of the spring when the cheeks are relatively rotated into full locking position.

In testimony whereof I have signed my name to this specification.

EDWARD JOHN WAY.