E. A. IVATTS.

TOOTHED FILM OPERATING DRUM OF KINEMATOGRAPHIC APPARATUS.

APPLICATION FILED OCT. 18, 1911.

1,065,132. Patented June 17, 1913.

Fig. 1

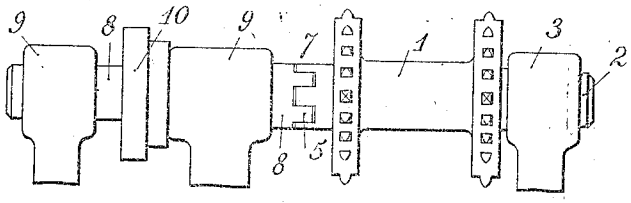



Fig. 2

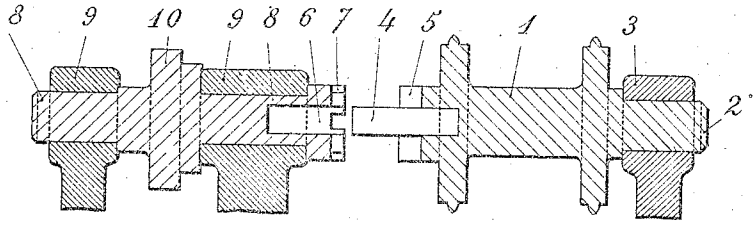



Fig. 3

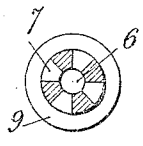
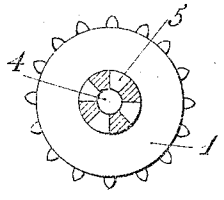



Fig. 4




Witnesses

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# UNITED STATES PATENT OFFICE.

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## TOOTHED FILM-OPERATING DRUM OF KINEMATOGRAPHIC APPARATUS.

1,065,132. Specification of Letters Patent. Patented June 17, 1913.

Application filed October 18, 1911. Serial No. 655,340.

*To all whom it may concern:*

Be it known that I, ERNEST ALBERT IVATTS, citizen of Great Britain, residing at Paris, in the Department of the Seine, and Republic of France, have invented certain new and useful Improvements in and Relating to Toothed Film-Operating Drums of Kinematographic Apparatus, of which the following is a specification.

This invention relates to toothed film operating drums for kinematographic apparatus.

The objects of the invention are to provide, first, for rapid and easy interchangeability of the drum by the operator without requiring the use of special tools or the services of a skilled mechanic; second, to obviate scratching the film when it is threaded onto the drum.

The invention consists in a toothed film operating drum mounted for bodily shifting and a clutch adapted for coupling said drum to the Maltese cross or other drum driving means.

The invention is shown in the accompanying drawing, in which:

Figure 1 is a side view of the drum. Fig. 2 is a longitudinal section. Figs. 3 and 4 are end views.

Referring to the drawing it will be seen that the toothed drum 1 is mounted by its journal 2 in a dismountable or shiftable bearing 3 so as to be able to be moved along its axle and be fastened in any intermediate position. The opposite journal of the said drum 1 is formed by an axle 4 and by a toothed rim 5, these two parts, when moving the drum 1 along its axle, penetrating into a circular cavity 6 and between corresponding teeth 7 formed at the end of a rotary driving shaft 8, which is supported by two fixed bearings 9 and to which is keyed the Maltese cross 10 rotating the toothed drum 1.

The invention resides in the provision of a bodily shiftable toothed film-operating drum, and a clutch for controlling its rotation, rather than in the specific clutch employed.

According to the displacement of the drum 1 and its support 3, the parts will be coupled up (Fig. 1) or uncoupled (Fig. 2).

The drum may be quickly removed by shifting the bearing 3, and another substituted when repairs are necessary, without requiring special tools or the services of a skilled mechanic. The shiftability of the drum minimizes scratching of the film when threading it thereon, as the drum may be quickly positioned for convenient placing of the film thereon which cannot be done with the drums now commonly used.

It is evident that modifications may be introduced in the arrangement without in any way affecting the principle of the invention.

Having now particularly described and ascertained the nature of my said invention, and in what manner the same is to be performed, I declare that what I claim is:—

1. In a kinematograph, a bodily shiftable film operating drum, in combination with a disconnectible driving connection therefor.

2. In a kinematograph, a bodily shiftable film operating drum, in combination with driving means, and a releasable clutch adapted for coupling said drum to said driving means.

In testimony whereof I affix my signature in presence of two witnesses.

ERNEST ALBERT IVATTS.

Witnesses:

HENRY DANZER,

LUCIEN CRESPIN.