(19) Canadian Intellectual Property Office / Office de la Propriété Intellectuelle du Canada
An Agency of Industry Canada / Un organisme d'industrie Canada

(11) CA 218664 (13) A
(40) 16.05.1922

(12)

(21) Application number: 218664D
(22) Date of filing: ..

(51) Int. Cl:

(71) Applicant: ESTABLISSEMENTS CONTINSOUZA SA.

(72) Inventor: GAURIAT PIERRE SYLVIAN ().

(54) MOVING PICTURE MACHINE
(54) MACHINE DE VUES ANIMEES

(57) Abstract:

218664

The present invention has for its object an arrangement for registering images in kinematographic projecting apparatus, which permits of preserving synchronism between the movements of feeding the film and of obturation.

By fixed registration is meant the process which consists in preserving the optical axis in an invariable position and in keeping or bringing the centre of the images of the film in coincidence with it.

In certain apparatus, the registration is effected by causing the Maltese cross to rotate about the axis of the carrier of the driving-finger: in others the axis of the carrier of the driving-finger is caused to rotate about the Maltese cross, so as to determine a rotation of the driving-drum of the film.

Figures 1, 2, 3 and 4 show the different positions of the Maltese cross, of the driving-finger and the obturator in an apparatus in which this kind of registration is applied.

Figures 1 and 2 represent diagrammatically the supposed feeding and obturating mechanisms, before a registration, at the commencement of the feeding period.

In figures 3 and 4, these mechanisms have undergone a registration, the apparatus being supposed to be stopped.

The pinion 1 receives the movement, transmits it to both the feed and the obturation in the following manner:

To the feed, through the medium of the pinion 2, of the driving-finger 3, of the cross 4 and the drum 5, then to the obturator 6 through the medium of the pinions 7, 8, 9 and of the correction differential 10.

The operation of correction of the obturator brings about during the working of the apparatus a perceptible momentary scintillation. The driving-finger is no longer placed with respect to the openings in the Maltese cross in the same position as before the

registration. This brings about the addition of a supplementary mechanism for correcting the release of the obturator (differential, cams, ramps, levers).

The present arrangement which forms the subject matter of this invention, permits, during the registration, of keeping the driving-finger in an invariable position with relation to the openings in the Maltese cross. The correction being made on the finger itself, does not, owing to this fact, have any influence on the position of the obturator, and the supplementary correcting mechanism is thus avoided.

The accompanying figures 6 to 10, allow the description of the arrangement and also its working to be easily followed.

Figures 5 and 6, show, by way of example, one construction of this arrangement, and figures 7 to 10 are working diagrams.

Figure 5 is a section through the axis of the mechanism. The pinion 11 receives movement from the mechanism of the apparatus and transmits it to the registering arrangement. The shaft 12 on which this pinion is keyed carries a skew gear 13 which it drives round in its rotation and which is adapted to slide upon it. The gear 13 gears with a pinion 14 keyed on the shaft 15 of the carrier of the driving-finger. This pinion is a satellite of the pinion 13 during the operation of registration. For this purpose the shafts 12 and 15 are carried by a cylindrical box 16, the shaft 12 being placed in the axis of the box 16.

The pinion 13 is controlled in its rotation by the shaft 12 and in its translation on this shaft by a guide 17 loose on 12, which itself receives its movement from a spindle 18 passing through a combination of two sets of ramps arranged as follows:

The two symmetrical helicoïdal ramps 19 are made through the box 16, the pitch of these ramps is in relation with that of the cut of the skew pinion 13.

The other set comprises two horizontal grooves 20 made in the

frame 21 and supporting the box 16. The Maltese cross 22, in which is keyed the film driving-drum 23, is placed in the extension of the shaft 12 and on the same axis.

The registration of the images of the film driven by the drum 23 is obtained by the rotation of the box 16 by means of the lever 24, the angle described corresponding to the result desired.

The skew pinion 14 is driven round in this direction and works round the pinion 13 as a satellite. The pinion 13, under the combined action of the ramps 19 and 20 slides en its axis and cancels the reaction which it would produce on its satellite if it were to remain keyed on the shaft in its anterior position. It is evident that an exact determination of the pitch of the ramps relatively to the cut of the pinions, permits of the pinion 13 being moved by such an amount that its reaction on its satellite may be suppressed. Figure 6 is an end view and a view in section on the line Y - Y of figure 5.

The effect of the arrangement described is indicated in the diagrams of figures 7 to 10.

In the diagrammatic figures 7 and 8, the various parts are supposed to occupy positions before a registration and at the commencement of the feeding period.

In figures 9 and 10, the positions of the various parts of the arrangement has been modified by a registration, the apparatus being supposed to be stopped. The driving-finger has not moved in the opening of the Maltese cross. The period of feeding has not therefore been released relatively to its position anterior to the registration. On the other hand, the pinion 11 has not rotated, and, consequently, the rest of the mechanism of the apparatus has not been affected by the registration and the obturator has not moved.

Having thus fully described my invention what I claim as new and desire to secure by Letters Patent is:-

1. In a mechanism of the character described, in combination, an obturator, a cross member, a drive finger operably associated with the cross member, driving means operably connected with the obturator and corrective means interposed between the drive finger and the operating means for sunchronizing the rotation between the drive finger and obturator and for producing a fixed registration of the film with respect to the obturator.

2. In a mechanism of the character described, in combination, an obturator, a maltese cross in operable relation to the film, a drive finger operably associated with the cross, a main driving shaft geared to the obturator, and corrective means interposed netween the drive shaft and the drive finger for maintaining the drive finger in any invariable position with relation to the openings in the maltese cross.

3. In a mechanism of the character described, in combination, a main drive shaft, an obturator directly geared to the shaft, a casing rotatable about the shaft, a film drum journalled in the casing, a maltese cross movable with the drum, another shaft journalled in the casing, a drive finger carried by the last mentioned shaft and operably associated with the cross and corrective means within the casing and operably connecting the main drive shaft and drive finger shaft for maintaining the drive finger in an invariable position with relation to the openings in the maltese cross.

4. In a mechanism of the character described, a main rotatable shaft, an obturator, ingeared connection therewith and operated thereby, a casing arranged concentrically about said shaft, a film driving drum journalled in said casing and aligning with said main shaft, a cross member carried with the drum, an actuating member for the cross member rotatably mounted on the casing and operatively

connecting the actuating member to the shaft for synchronizing the movement of the drum with relation to the shaft and also producing a fixed registration of the film with respect to the obturator.

5. In apparatus of the character described, a main rotatable shaft, an obturator geared to and operated by the shaft, a film drum, means operably connecting the drum to the shaft for synchronizing the rotation of the drum and obturator and means interposed in the last mentioned means for correcting the movement of the drum without influencing the movement of the obturator and at the same time causing a fixed registration of the film with respect to the obturator.

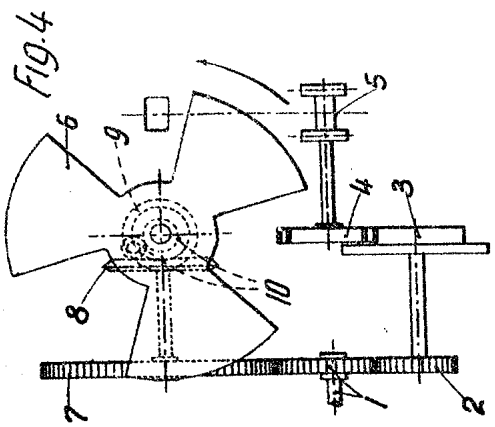


Fig. 4

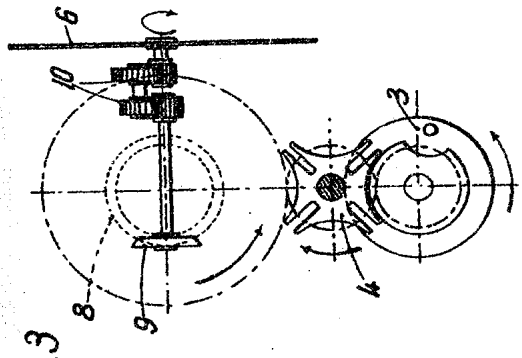


Fig. 3

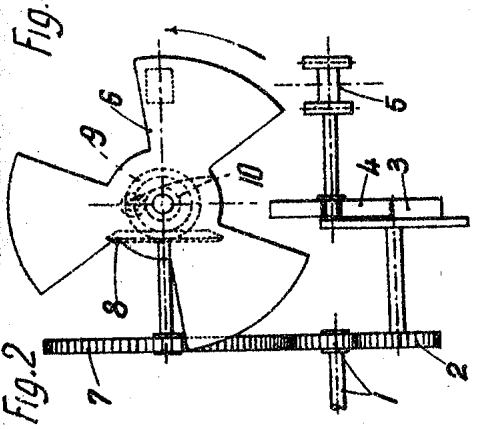


Fig. 2

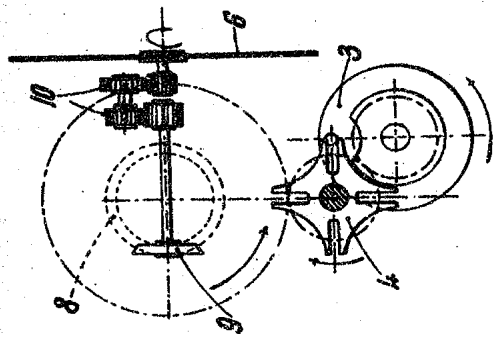


Fig. 1

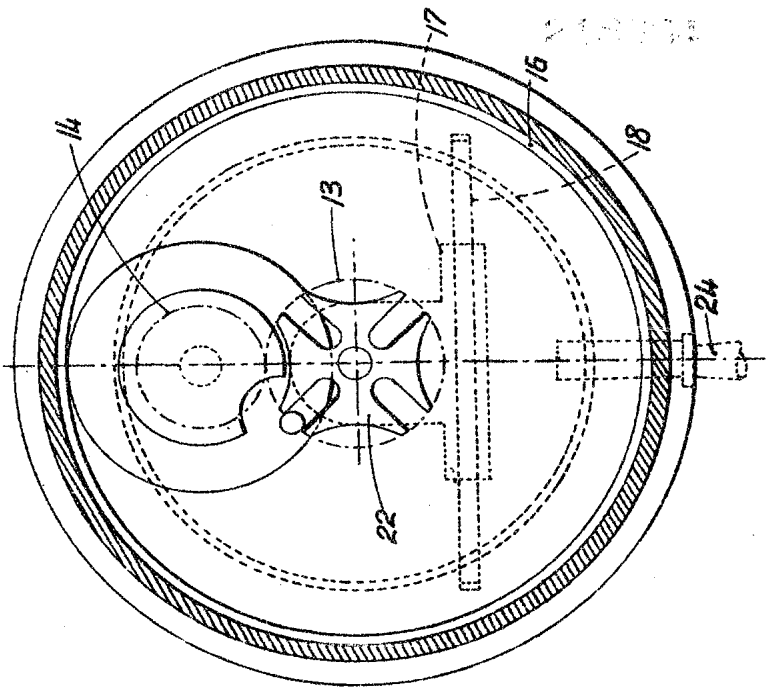


Fig. 6

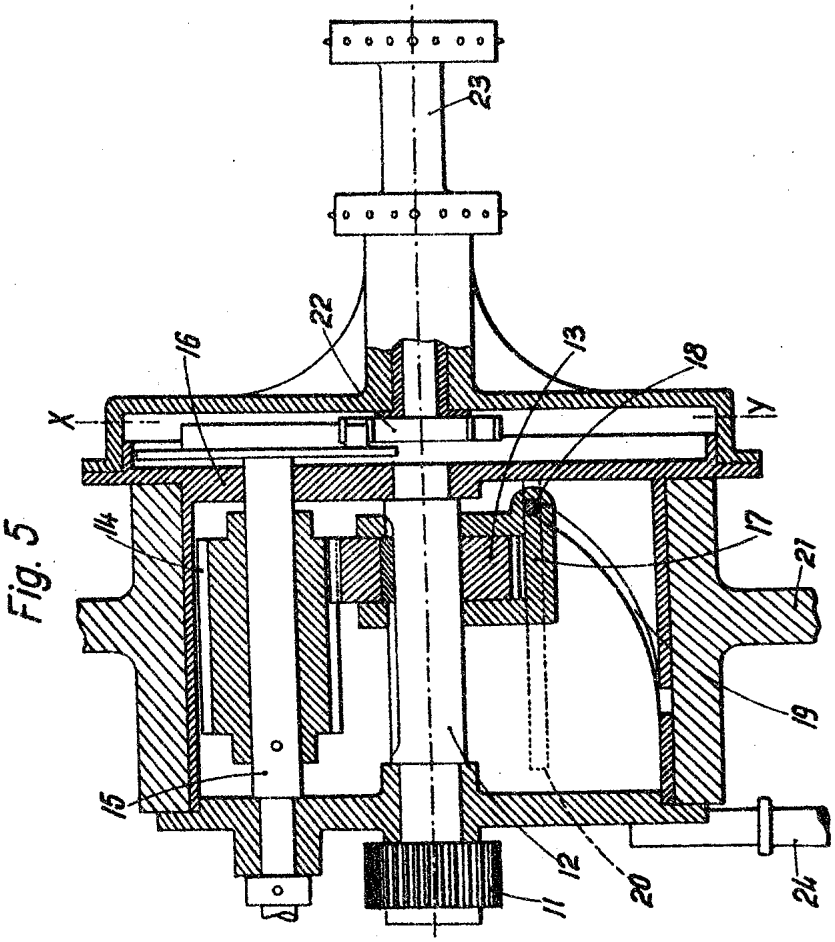


Fig. 5

Pierre S. Gauriat
Inventor
By Marion
Attorneys

In presence of
Wareham.
C. A. Robic

Certified to be the drawing referred to in the specification hereunto annexed.
Montreal, 18 May 1920
Marion

10 K

Fig. 7

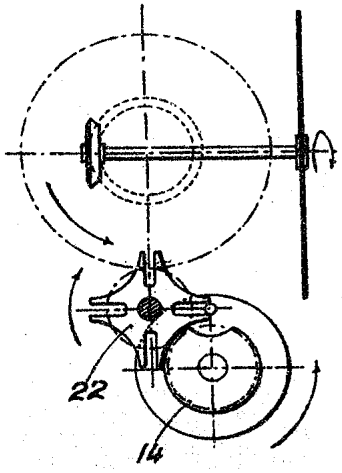


Fig. 8

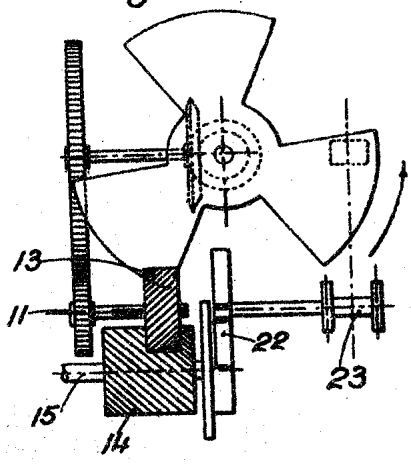


Fig. 9

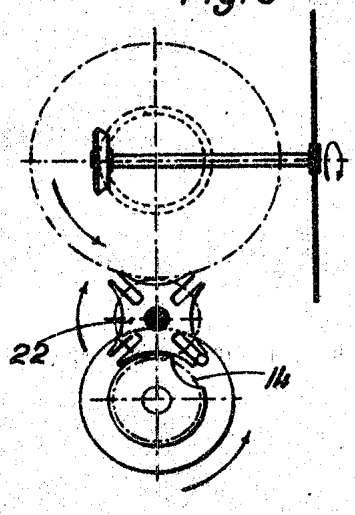
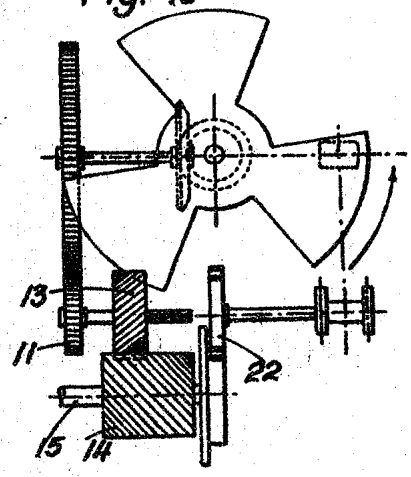


Fig. 10



Pierre S. Gauriat
Inventor

In presence of

L Wareham
R. A. Robic

Certified to be the drawing referred to in the specification hereunto annexed.

Montreal, 18 May 1920

By Marion Marion
Attorneys