

PATENT SPECIFICATION



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PROVISIONAL SPECIFICATION.

An Improved Kinematograph Camera.

I, ARTHUR SAMUEL NEWMAN, of 25, Hornsey Lane, Highgate, in the County of Middlesex, a subject of the King of Great Britain, do hereby declare the nature of this invention to be as follows:—

The object of the present invention is to construct a small light running and light-weight kinematograph camera, which will drive the ordinary length of film at an even speed throughout its entire length.

According to the present invention, the film is driven by means of a crank preferably mounted on the fastest running arbor. One end of this crank is connected to one end of a link or carrier which is pivoted at its other end to a rocking arm. The link or carrier intermediate of its ends is provided with a claw or claws to drive the film. This claw receives an oval motion which is slow at its ends when it is entering and leaving the apertures in the film and which is rapid whilst it is driving the film and returning to its initial position

ready again to enter an aperture in the film. The link or carrier is so formed that it does not obscure the passage of the rays and it may be formed by means of a strip of metal which is bent upon itself to form two parallel portions passing on each side of the said aperture, the strips being then bent inwards toward each other where they are connected together with the claw located between them.

The said crank is also connected by means of a link to one arm of a bell crank lever, the other arm of which is connected to an arm formed integral with or fixed to the shutter. The shutter is provided with a transverse pin, the ends of which move in guides. The upper end of the shutter rocks upon the said pin due to the angular motion of the bell crank lever.

Dated this 28th day of February, 1925.

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COMPLETE SPECIFICATION.

An Improved Kinematograph Camera.

I, ARTHUR SAMUEL NEWMAN, of 25, Hornsey Lane, Highgate, in the County of Middlesex, a subject of the King of Great Britain, do hereby declare the nature of this invention and in what manner the same is to be performed, to

be particularly described and ascertained in and by the following statement:—

The object of the present invention is to construct a small light running and light-weight kinematograph camera, and which, when embodying a spring motor,

[Price 1/-]

will drive a film at an even speed throughout its entire length.

According to the present invention, the film is driven by means of a crank, mounted on a fast running arbor, and which is connected to one end of a link or carrier which is pivoted at its other end to a rocking arm. The link or carrier intermediate of its ends is provided with a claw or claws to drive the film. This claw receives an oval motion which is slow at its ends when it is entering and leaving the apertures in the film and which is rapid whilst it is driving the film and returning to its initial position. The link or carrier may be formed by means of a strip of metal which is bent upon itself to form two parallel portions passing on each side of the exposure aperture, the strips being then bent inwards toward each other where they are connected together with the claw located between them.

The said crank is also connected by means of a link to one arm of a bell crank lever, the other arm of which is connected to an arm formed integral with or fixed to the shutter. The shutter is provided with a transverse pin, the ends of which move in guides.

The invention is illustrated in the accompanying drawings in which:

Fig. 1 is a diagrammatic elevation showing all the parts in co-operation except the spring which, when inserted in the spring barrel is of usual form.

Fig. 2 is a side elevation partly in section, showing in detail the mechanism for driving the film and moving the shutter.

Fig. 3 is a front elevation taken on the line B—B of Fig. 2 showing the exposure aperture, the link for driving the claw, and the shutter.

Fig. 4 is a diagram showing the path taken by the claw when it is mounted, as shown in Figs. 1, 2 and 3.

Fig. 5 is another diagram showing another path which will result from the slight modification in the mounting of the parts.

As shown in the drawings *a* is one of the side plates of the spring mechanism. *b* indicates a spring driving drum of ordinary construction provided with teeth on its periphery, which gear with a pinion *c* fixed on an arbor *d*. On the arbor *d* is also mounted a toothed wheel *e* gearing with a pinion *f* mounted upon an arbor *g*. Upon the arbor *g* is mounted a toothed wheel *h* gearing with a pinion *i* mounted on a stub shaft *j* and also gearing with a pinion *k* mounted on an arbor *l*. The toothed wheel *h* also gears with a pinion *m* which is mounted on an

arbor *n* and engages a toothed wheel *o* mounted upon a stub shaft *p*. The toothed wheel *o* actuates by a friction coupling the film taking up mechanism. The toothed wheels *e*, *h* and *o* are not in the same plane.

Upon the arbor *j* is fixed a crank *q* which is connected to one end of a link *r*, the other end of the link *r* being connected to rocking arms *s* pivoted at *t*. The link *r* carries the film driving claw *u*. As seen in Fig. 4 the end of the claw *u* has an oval path indicated at *v*, the film being indicated by the broken line *w* having the usual apertures *x*. If the link *r* be connected to rocking arms *s* pivoted on the same side of the link *r* as the claw *u* as shown in Fig. 5, it is possible to give the claw *u* a path *v* which is much flatter on the film driving side as shown.

The link *r* is composed of a strip of metal which, as seen in Fig. 3, is bent into two parallel portions sufficiently separated to avoid obstructing the exposure aperture *y* (Fig. 2). The ends of this strip of metal are then bent towards each other until they are in contact, and they are bent round the claw *u* and then continue in contact, and are pivoted at one end to the crank *q*. The construction of the link *r* is clearly seen in Figs. 2 and 3.

The crank *q* is also pivoted to one end of a link *z*, the other end of which is pivoted to a bell crank rocking lever 2 pivoted at *2a*. The other end of the bell crank lever 2 is pivoted to an arm 3 (Fig. 3) connected to, or forming part of the shutter 4. The shutter 4 is provided with a pin 5 working in guide grooves 6 one side of each groove being formed by a plate 7. In its motion the shutter rocks upon the pin 5.

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. An improved kinematograph camera in which the film is driven by means of a crank mounted on a fast running arbor, which crank is connected to one end of a link or carrier, the other end of which is pivoted to a rocking arm, the link or carrier having the driving claw or claws intermediate of its ends.

2. An improved kinematograph camera as claimed in Claim 1 in which the link or carrier is formed from a strip of metal which is bent upon itself to form two parallel portions passing on each side of the exposure aperture, the two portions of the strip being then bent inwards

towards each other where they are connected with the claw located between them.

5 3. An improved kinematograph camera as claimed in Claim 1, in which the said crank is connected by means of a link to one arm of a bell crank lever, the other arm of which is connected to an arm formed integral with, or fixed to the
10 shutter.

4. An improved kinematograph camera as claimed in Claim 3 in which the shutter is provided with a transverse pin, the ends of which move in guides.

Dated this 23rd day of December, 1925. 15

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[This Drawing is a reproduction of the Original on a reduced scale.]

Fig.1

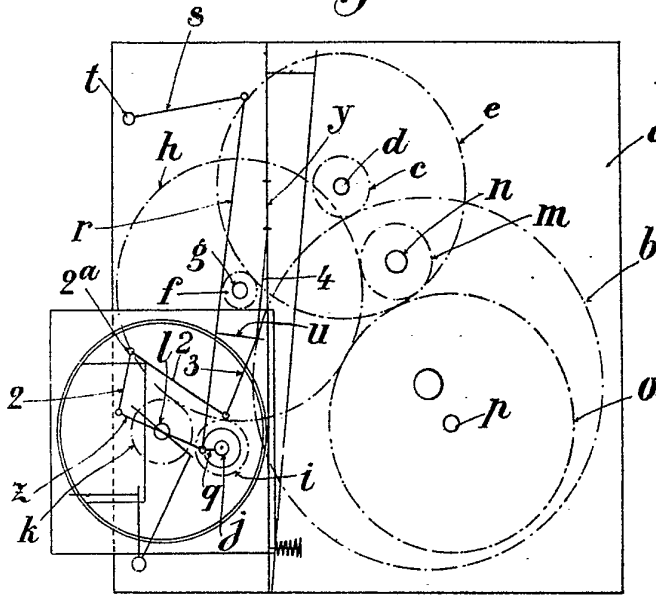


Fig.4

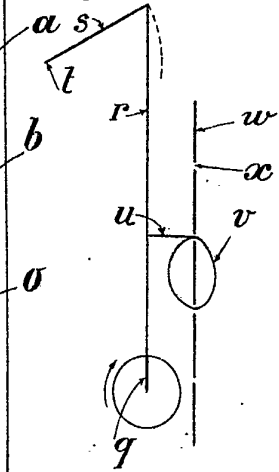


Fig.2

Fig.3

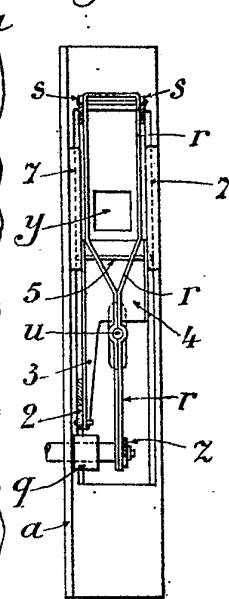
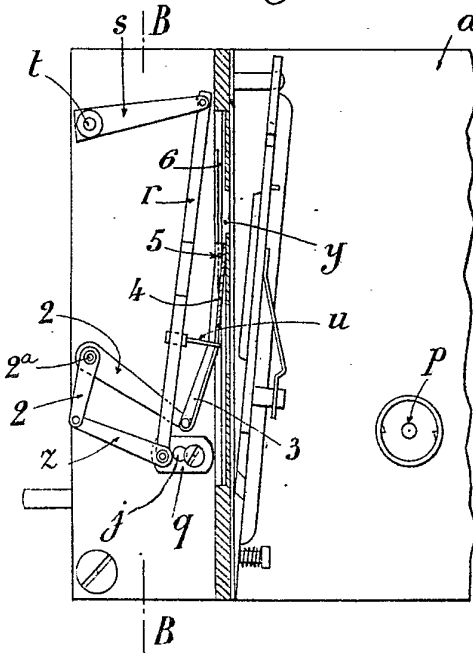


Fig.5

