

Aug. 23, 1927.

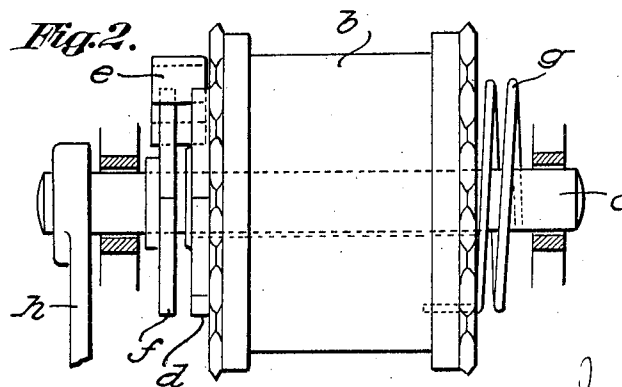
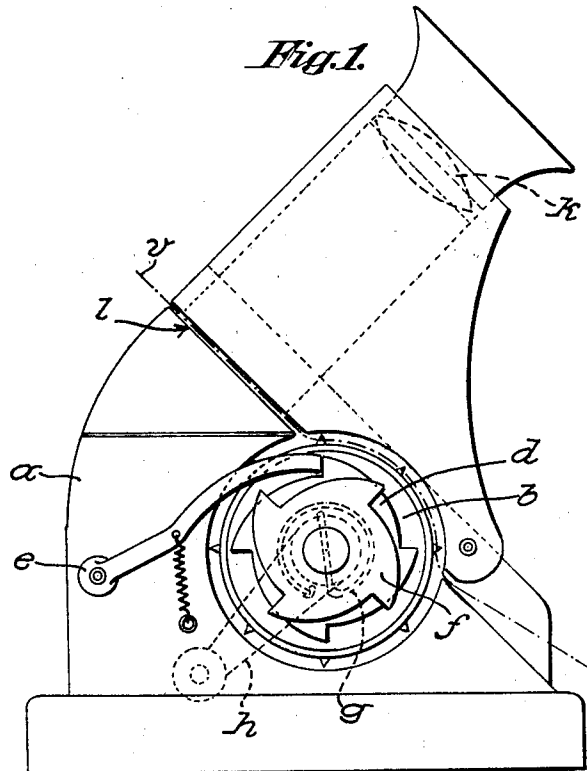
W. PORAK

1,639,702

MOVING PICTURE PROJECTING OR PEEPING APPLIANCE

Filed April 18, 1924

2 Sheets-Sheet 1



Inventor
Waldemar Porak
By
B. Singer, Atty.

Aug. 23, 1927.

W. PORAK

1,639,702

MOVING PICTURE PROJECTING OR PEEPING APPLIANCE

Filed April 18, 1924

2 Sheets-Sheet 2

Fig. 3.

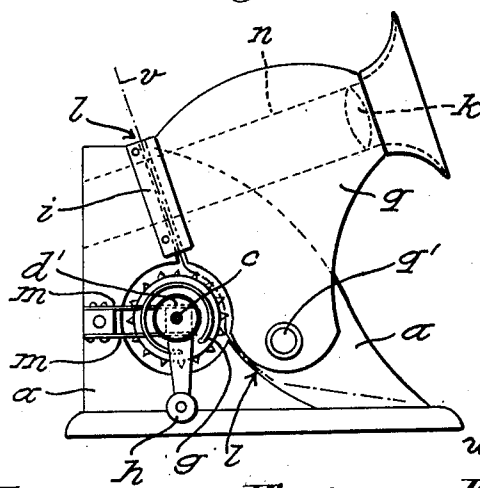


Fig. 4.

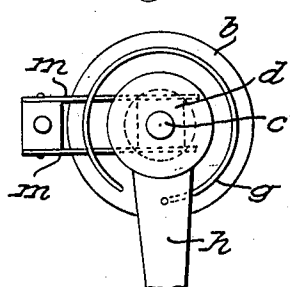


Fig. 6.

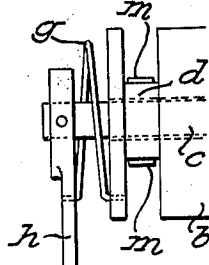


Fig. 7.

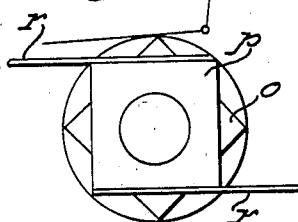


Fig. 8.

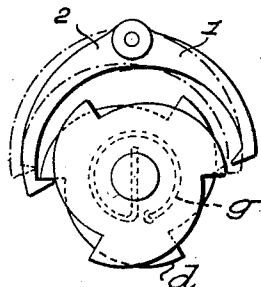


Fig. 5.

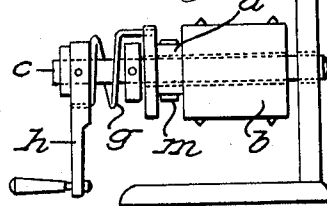
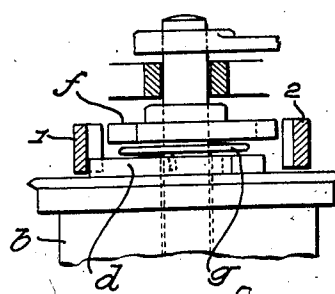


Fig. 9.



Inventor
Waldemar Porak
By
B. Singer, atty.

UNITED STATES PATENT OFFICE.

WALDEMAR PORAK, OF VIENNA, AUSTRIA.

MOVING-PICTURE PROJECTING OR PEEPING APPLIANCE.

Application filed April 18, 1924, Serial No. 707,464, and in Austria September 1, 1923.

My present invention relates to moving picture projecting or peeping appliances and has for its object to provide a simple and efficient means for intermittently moving the film thereof.

This purpose in view the invention consists in that the film moving drum is coupled to the driving member by means of a spring, means being actuated by the driving member for alternately releasing and tensioning the spring.

Other features of the invention are hereinafter described.

In the drawings:

Fig. 1 illustrates an improved moving picture show apparatus with ratchet and releasing wheels in a side view.

Fig. 2 shows a front view of the stepping device of this apparatus in an enlarged scale.

Fig. 3 shows a side elevation of an apparatus with a square shaft.

Figs. 4-6 illustrate the stepping device of this apparatus.

Fig. 7 shows an arrangement having two square or cant-members and a shutter.

Figs. 8 and 9 show a modification of the means for releasing the stepping or moving spring in a side elevation and top view respectively.

On a shaft *c* revolvably supported in the base portion *a* of the apparatus the usual film drum *b* is idly mounted. Said drum *b* is rigidly secured to a ratchet wheel *d* and connected to the shaft *c* by means of a spring *g*. A releasing wheel *f* is rigidly secured to the shaft *c* and serves to release a spring urged pawl *e* engaging and checking the ratchet wheel *d*.

The shaft *c* may be revolved for example by a crank *h*. During each complete revolution of the shaft *c* or wheel *f* the ratchet wheel *d* and the drum *b* are checked and released as often as corresponds to the number of teeth of the wheel *f*.

The entire film stepping device is in the present case arranged in connection with a show apparatus. The film *v* being moved through a guiding path *l* between the base portion *a* and the upper portion or cover *q*, may be peeped at through an objective *k*, as seen in Figs. 1 and 3.

In the arrangement shown in Figs. 3-6 the film moving drum *b* being loosely mounted on the shaft *c* is rigidly connected to a polygonal or square portion *d*¹ and coupled to the shaft *c* or to the crank *h* thereof by means of

the spring *g* (Figs. 4-6). The square portion *d*¹ is held between two springs *m*, so that after the spring *g* has been suitably tensioned by turning the crank *h* the springs *m* yield and move the drum *b* and film *v* by an angle equal to 90°, whereupon the same operation repeats.

The cover *q* is hingedly secured as at *q*¹ to the base portion *a* and is provided with a tubular portion *n* containing the objective *k* through which the film intermittently moving behind the window *i* can be regarded.

In Fig. 7 the intermittent motion of the film *v* takes place with simultaneously actuating a shutter *t*. For this purpose two polygonal or square members *o* and *p* are provided, one member being set off by an angle equal to 45° in respect to the other member. The two members *o* and *p* act in such manner that at each standstill of the member *p* between the springs *r* a lever mechanism *s* or the like maintains the shutter *t* in open position behind the window *u* and closes the latter for a period of time during the movement of the film.

The entire film stepping or moving appliance is mounted upon a drum or the shaft thereof.

The ratchet device may be constructed as shown in Figs. 8 and 9.

The ratchet wheel *d* is similarly loosely mounted on the shaft *c* and rigidly connected to the film moving drum *b* and the releasing wheel *f* being fixed on the shaft *c* has its teeth displaced in respect to the teeth of the wheel *f* preferably by half the distance between two adjacent teeth.

The pawl for checking and releasing the wheel *d* or the spring *g* is formed in the manner of a watch escapement anchor and comprises two arms 1 and 2, extending over the width of the two wheels *d* and *f* or only over the width of the wheel *d* and being provided with projections extending in the path of the wheel *f*. One of the arms, i. e. the arm 1 forms a pull hook, the other arm 2 a push member. As soon as one of the arms engages and checks the wheel *d* said arm will be disengaged after the releasing wheel *f* has been turned by an angle corresponding to the half distance between two neighbouring teeth and at the same time the other arm will be shifted in a position to check the wheel *d* being previously released and moved by the tensioned spring, after said wheel *d*

has been moved by the aforesaid angle. This operation repeats in the reverse manner.

The arrangement shown in Figs. 8 and 9 has the advantage that a spring urged pawl as *e* in Fig. 1 and every special device for limiting the spring tension and the movement of the released wheel *d* relatively to the wheel *f* are dispensed with.

The invention may also be applied to a projecting apparatus, in which case a source of light is disposed in a well known way in the rear of the film.

I claim as my invention:

1. In a moving picture projecting or peeping appliance the combination of a driving shaft, a film, a drum for moving the picture film, a spring connecting the shaft to the drum, a wheel secured to the drum, a second wheel secured to the shaft, a pawl for engaging and checking the first named wheel, said pawl being actuated by the second named wheel for disengaging the pawl from the first named wheel after said second wheel has performed an angular motion of a predetermined extent.

2. In a moving picture projecting or peeping appliance the combination of a driving shaft, a film, a drum for moving the picture film, a spring connecting the shaft to the drum, a ratchet wheel rigidly secured to the drum, a toothed releasing wheel secured to

the shaft, a pawl for engaging and checking the ratchet wheel after a predetermined angular motion, said pawl being disengaged from the ratchet wheel by the releasing wheel.

3. In a moving picture projecting or peeping appliance the combination of a driving shaft, a film, a drum for moving the picture film, a spring connecting the shaft to the drum, a ratchet wheel rigidly secured to the drum, a toothed releasing wheel secured to the shaft, the two wheels having equal numbers of teeth but the teeth of the one wheel being suitably displaced in relation to the teeth of the other wheel, a pawl for engaging and checking the ratchet wheel after a predetermined angular motion, said pawl being disengaged from the ratchet wheel by the releasing wheel.

4. In a moving picture projecting or peeping appliance the combination of a driving shaft, a film, a drum for moving the picture film, a spring connecting the shaft to the drum, a polygonal or square member rigidly secured to the drum and oppositely arranged springs for withholding said drum until the first named spring has been suitably tensioned and then causing the drum to perform a predetermined angular motion.

In witness whereof I affix my signature.

ING. WALDEMAR PORAK.