

C. J. PAULSON.

MOVING PICTURE MACHINE.

APPLICATION FILED SEPT. 29, 1908. RENEWED AUG. 2, 1909.

957,246.

Patented May 10, 1910.

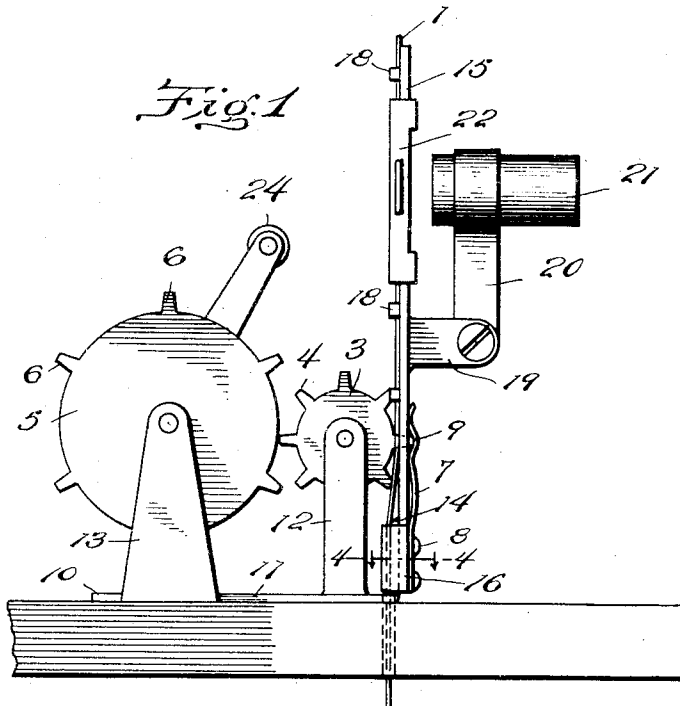


Fig. 2

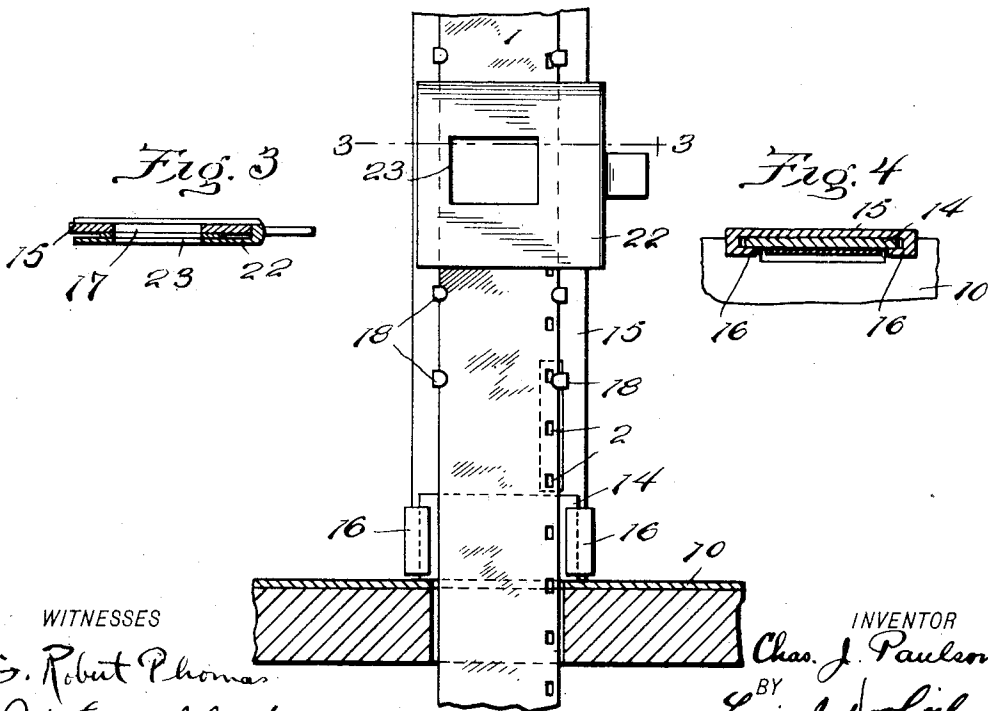
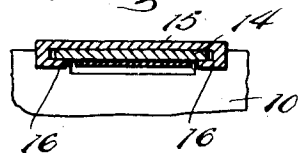


Fig. 3



Fig. 4



WITNESSES

G. Robert Thomas
B. M. Couldock

INVENTOR

Chas. J. Paulson
BY
Lewis J. Noolick
ATTORNEY

UNITED STATES PATENT OFFICE.

CHARLES J. PAULSON, OF KARLSKRONA, SWEDEN.

MOVING-PICTURE MACHINE.

957,246.

Specification of Letters Patent.

Patented May 10, 1910.

Application filed September 29, 1908, Serial No. 455,296. Renewed August 2, 1909. Serial No. 510,880.

To all whom it may concern:

Be it known that I, CHARLES J. PAULSON, a subject of the King of Sweden, and resident of the city of Karlskrona, Sweden, have invented certain new and useful Improvements in Moving-Picture Machines, of which the following is a specification.

This invention relates to moving picture machines, and more particularly to the film-driving mechanism.

The objects of the invention are to insure quickness of film-movement, accurate positioning of the pictures, and prompt stoppage of the film-movement after each impulse.

To accomplish these results, the invention may be said to consist in the combination of a toothed film-driving member, a toothed operating member adapted to engage therewith, the teeth on said members being spaced to impart a step-by-step movement to the film-driving member, and a resilient detent adapted to engage successively with the teeth of the film-driving member.

The invention also resides in the sub-combinations, and in certain structural features which will be described more fully hereinafter.

In the accompanying drawings, illustrating the principle of the invention and certain structural features that may be employed in the carrying out thereof, like parts in the several views have been given the same reference numbers.

Figure 1 is a side elevation of a device embodying the invention. Fig. 2 is a face view of the film and upright film guide. Fig. 3 is a section on line 3—3 of Fig. 2. Fig. 4 is a horizontal section on the line 4—4 of Fig. 1.

Referring now to these views, the numeral 1 indicates the film which is provided with the driving apertures 2.

3 is a film-driving member or wheel, provided with the spaced teeth 4, for engagement with the apertures 2.

5 is a rotary operating member, provided with one or more teeth 6, for engagement with the teeth 4. The teeth 4 and 6 are so spaced that a quick step-by-step movement is imparted to the wheel, 3, the speed being determined by the number of teeth 6. After each driving impulse, the movement of the wheel 3, and therefore of the film 1, is arrested by a resilient detent, preferably of the form indicated at 7 which consists of a

strip of spring metal secured as at 8 and is provided with an offset 9 shaped to receive and hold the ends of the teeth 4. However, it will be obvious, this resilient detent may be very variously constructed.

The toothed film driving member directly engaging with the film and the resilient detent engaging with the teeth of said driving member have been found in actual practice to perform successfully the important function of locating the film exactly in its successive positions. In applicant's device the film is provided with a number of openings through which the teeth of the driving member pass and thus effect a direct and positive driving of the film. The resilient detent on the opposite side of the film serves to locate the teeth and the film exactly in its successive positions.

The parts may be mounted and associated as follows: 10 indicates a mount, conveniently stamped out of sheet metal, and comprising the floor 11, the two pairs of upright lugs 12 and 13, in which the members 3 and 5 are journaled, and the upright stub 14. 15 is an upright, also conveniently formed of sheet metal, provided at the base with the flanges 16 adapted to embrace the stub 14, the light aperture 17, the projections 18 for guiding the film, and the bracket projection 19, to which may be secured the lower end of a support 20 for the lens tube 21. A guard 22 may be slipped laterally over the upright 15, being provided with an aperture 23 registering with the aperture 17. The detent 7 is shown as being secured to the upright 15 and the operating member 5 is shown as being provided with the hand crank 24.

It is obvious that the parts indicated by numerals 10 to 24 are not material to the essence of the invention, though I shall claim them as minor features of value.

As many changes could be made in the above construction and many apparently widely different embodiments of my invention designed without departing from the scope thereof, I intend that all matter contained in the above description or shown in the accompanying drawings shall be interpreted as illustrative merely of an operative embodiment of my invention and not in a limiting sense.

What I claim as new is:

1. Driving mechanism for moving picture apparatus, comprising a toothed film-driv-

ing member, a toothed operating member adapted to engage therewith, the teeth on said members being spaced to impart a step-by-step movement to the film-driving member, and a resilient detent adapted to engage successively with the teeth of the film-driving member.

2. Driving mechanism for moving picture apparatus, comprising a toothed film-driving member, a toothed operating member adapted to engage therewith, the teeth on said members being spaced to impart a step-by-step movement to the film-driving member, and a resilient detent having a pocket adapted successively to receive and locate the ends of the teeth of the film-driving member.

3. Driving mechanism for moving picture apparatus, comprising a toothed film driving member positioned to engage with the film and impart an intermittent movement thereto, and a resilient detent positioned to engage with the teeth of said driving member and adapted to locate said teeth successively in a predetermined position.

4. Driving mechanism for moving picture apparatus, comprising a toothed film driving member positioned on one side of said film and having its teeth arranged to enter successive openings in the film to impart an

intermittent movement thereto, and a resilient detent positioned on the opposite side of the film engaging with the teeth of said driving member and adapted to locate said teeth successively in a predetermined position.

5. In a moving picture apparatus, a mount, film driving mechanism carried thereby, an upright film-guiding member removably carried by said mount, and a resilient detent secured to said member and adapted to arrest the film driving mechanism after each impulse.

6. In a moving picture apparatus, a mount, film driving mechanism carried thereby, a stub projecting upward from the mount, an upright film-guiding member shaped at its lower end to fit removably on said stub and having a lateral bracket projection, a lens tube carried by said bracket projection, and a guard adapted to slip laterally onto said upright film-guiding member.

Signed at New York City, N. Y., in the county of New York and State of New York, this 28th day of Sept. 1908.

CHARLES J. PAULSON.

Witnesses:

LEWIS J. DOOLITTLE,

WILLIAM P. LANGEVIN.