

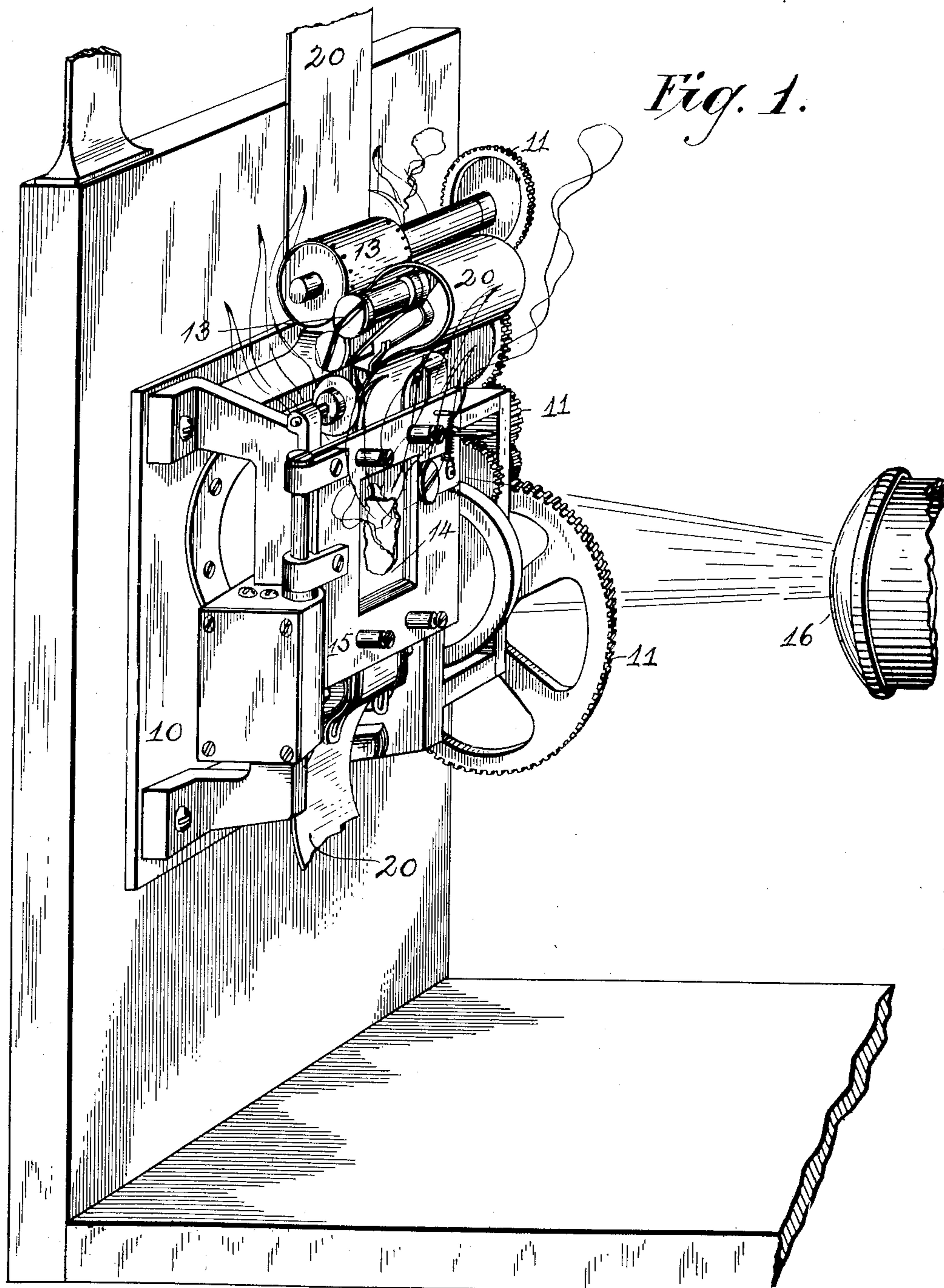
No. 785,205.

PATENTED MAR. 21, 1905.

W. ELLWOOD.
FLAME SHIELD FOR KINETOSCOPES.

APPLICATION FILED MAR. 30, 1904.

2 SHEETS—SHEET 1



Witnesses
Herman Meyer
Estelle M. Titus.

William Ellwood Inventor
By His Attorney William R. Baird

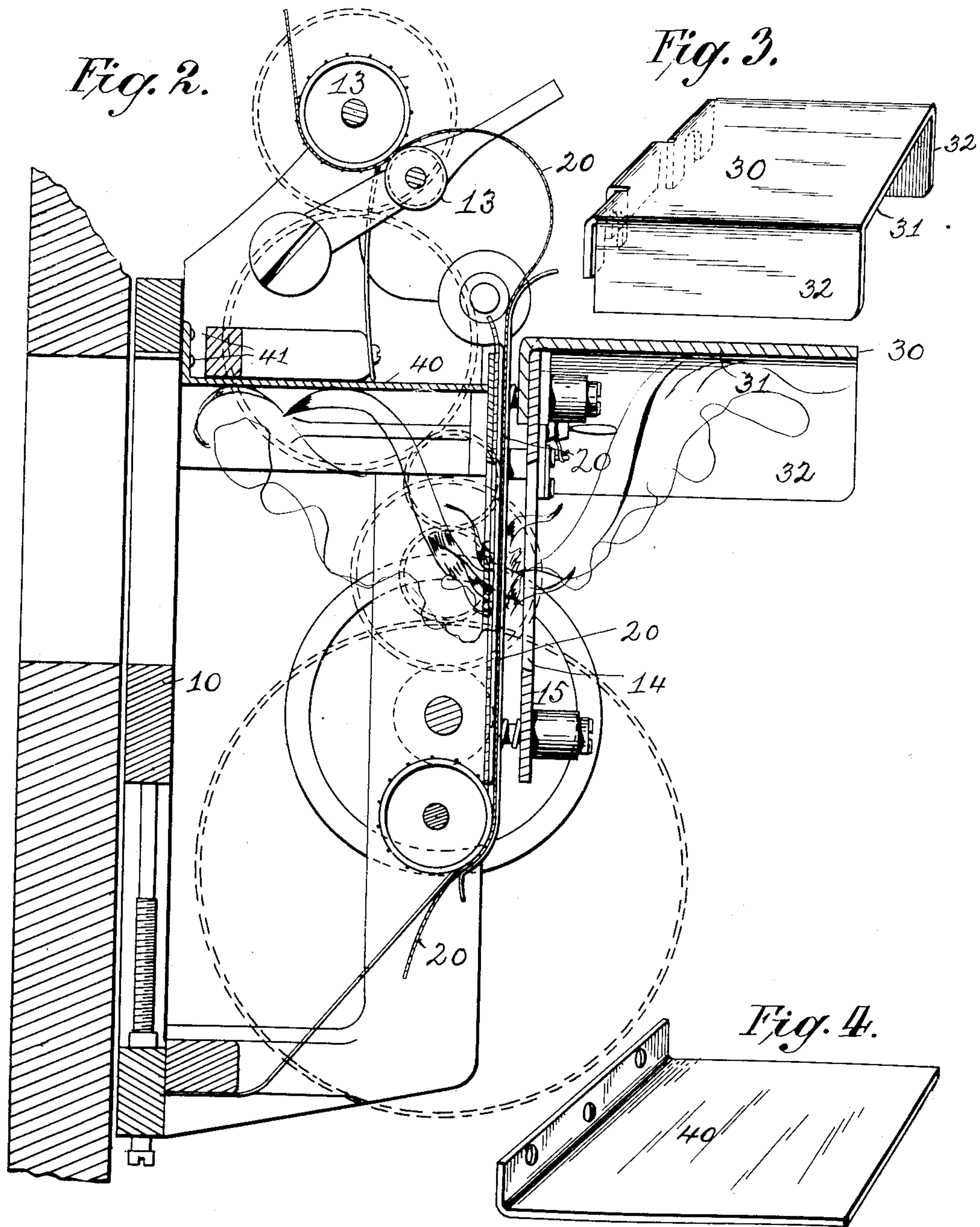
No. 785,205.

PATENTED MAR. 21, 1905.

W. ELLWOOD.
FLAME SHIELD FOR KINETOSCOPES.

APPLICATION FILED MAR. 30, 1904.

2 SHEETS—SHEET 2.



Witnesses
Herman Meyer
Estelle M. Titus

William Ellwood Inventor
By His Attorney William R. Baird

UNITED STATES PATENT OFFICE.

WILLIAM ELLWOOD, OF BROOKLYN, NEW YORK, ASSIGNOR TO THE
VITAGRAPH COMPANY OF AMERICA, A CORPORATION OF NEW
YORK.

FLAME-SHIELD FOR KINETOSCOPES.

SPECIFICATION forming part of Letters Patent No. 785,205, dated March 21, 1905.

Application filed March 30, 1904. Serial No. 200,704.

To all whom it may concern:

Be it known that I, WILLIAM ELLWOOD, a citizen of the United States, and a resident of Brooklyn, New York city, in the county of Kings and State of New York, have invented certain new and useful Improvements in Flame-Shields for Kinetoscopes, of which the following is a specification.

My invention relates to flame-shields for kinetoscopes and similar forms of apparatus.

Moving-picture machines of the kind referred to comprise a long transparent film displaying a series of pictures, means for propelling the same rapidly intermittently in front of a light-aperture, and a source of proper illumination adapted to project rays of light through the aperture in order that the pictures may be thrown in succession enlarged in size upon a suitable screen. A machine of this class is shown and described in Letters Patent of the United States No. 673,329, issued to Albert E. Smith, April 30, 1901, and in one sense my invention is an improvement upon that structure.

The transparent films employed are made of pyroxylin or celluloid and are very inflammable. They are coiled above the machine on a feeding-roll and below the machine are either wound on a take-up reel or are allowed to fall into a suitable receptacle. If in the course of operating the machine the film-propelling mechanism is stopped and the light is not shut off at once, the rays impinge upon the section of film in front of the light-aperture and in a very short time set it on fire. Of course the film may get afire from other causes; but this is the chief one. As these machines are used in theaters and are commonly placed in the audience-room, a fire is apt to cause a panic with disastrous results.

It has long been desired to provide some means by which fires of the kind referred to could be quickly extinguished. Endeavors have been made to treat the film itself with antiphlogistic material and to incase it in enveloping sleeves except at the point of use; but all these methods, so far as they are known

to me, have tended to interfere with the transparency or efficiency of the film or with the operation of the apparatus.

I have discovered a simple and efficient means for limiting the area of a fire of the character referred to, so that it is almost immediately extinguished and does no harm, and such means, in brief, consists of one or more flame-shields placed above the exposed part of the film and in relatively close proximity thereto and adapted by reason of its size, arrangement, and material to prevent the spread of the flame from the portion of the film in proximity to the light-aperture to the portion of said film above said light-aperture.

In the drawings, Figure 1 represents in perspective part of a moving-picture machine, showing the source of the heat-rays and how a film is ignited thereby. Fig. 2 is a vertical central section through the apparatus, showing the flame-shields in place. Fig. 3 is a perspective of the front shield, and Fig. 4 of the rear shield.

In the drawings, 10 is an upright frame or support on which the apparatus is mounted. Above it is a feed-roll secured in any suitable manner, and proper propelling-gears 11 and guiding devices 12 serve to conduct a film from such feed-roll past a light-aperture in a shutter 15. 16 is the lantern provided with a source of light-supply and adapted to project the light-rays to and through the light-aperture. These parts are of usual construction and need no further or other description.

Mounted above the light-aperture and in front of the apparatus (toward the lantern) is a flame-shield 20. It is supported in any suitable manner and may be of any non-inflammable material and any shape provided it presents a substantially horizontal impervious obstacle 31 to the upward passage of the flames on that side of the light-aperture. I prefer to make this shield with depending flanges 32 in order to retard the spread of the flames laterally; but in most cases they are not essential. Mounted also above the light-aperture and at the rear of the shutter is a second

flame-shield 40. It is supported in any suitable manner, as by the screws 41, from any portion of the apparatus. Like the similar shield 30, it may be of any desired shape and
 5 any non-inflammable material provided it presents a proper obstacle to the upward passage of the flames between the shutter 15 and the support 10. When these shields 30 and 40 have
 10 been put in position and the heat-rays from the lantern are permitted to impinge upon the film 20, the latter catches on fire and the flames spread upward to the front and rear; but their
 15 passage is checked by the shields and the fire dies out. It is impossible for it to follow the film upward between the shutter 15 and the
 20 diaphragm back of it for lack of air, and of course it cannot retreat downward. The result is that a hole is merely burned in the film, and the machine being again put into motion
 25 the exhibition can be continued uninterruptedly, the film itself can subsequently be pieced, and the burned spot cut out. If there existed a danger-spot similar to that at the light-aperture, it could be similarly protected by
 25 one or more flame-shields.

Having described my invention, what I claim as new is—

1. A moving-picture apparatus or the like, provided with a flame-shield comprising a substantially horizontal plate extending at an
 30 angle with the film and provided with one or more depending flanges, the whole placed

above the danger-point and in close proximity thereto.

2. The combination with a kinetoscope comprising a film-propelling mechanism of a plurality of flame-shields placed in close proximity to the path of the film and extending outwardly therefrom. 35

3. The combination with a kinetoscope comprising a film-propelling mechanism of a plurality of flame-shields placed in close proximity to the path of the film and extending outwardly therefrom, one of said shields being provided with depending flanges. 40 45

4. A moving-picture apparatus provided with a plurality of flame-shields, arranged at opposite sides of the path traversed by the film in its passage across the light-aperture and in proximity to the latter and extending at an
 50 angle to the film and out of contact therewith throughout their length, said flame-shields comprising non-inflammable plates adapted to prevent the spread of the flame from the portion of the film in front of said aperture to
 55 that above the same.

Witness my hand this 29th day of March, 1904, at the city of New York, in the county and State of New York.

WILLIAM ELLWOOD.

Witnesses:

ALAN CHARLES McDONNELL,
 WILLIAM R. BAIRD.