

Feb. 16, 1932.

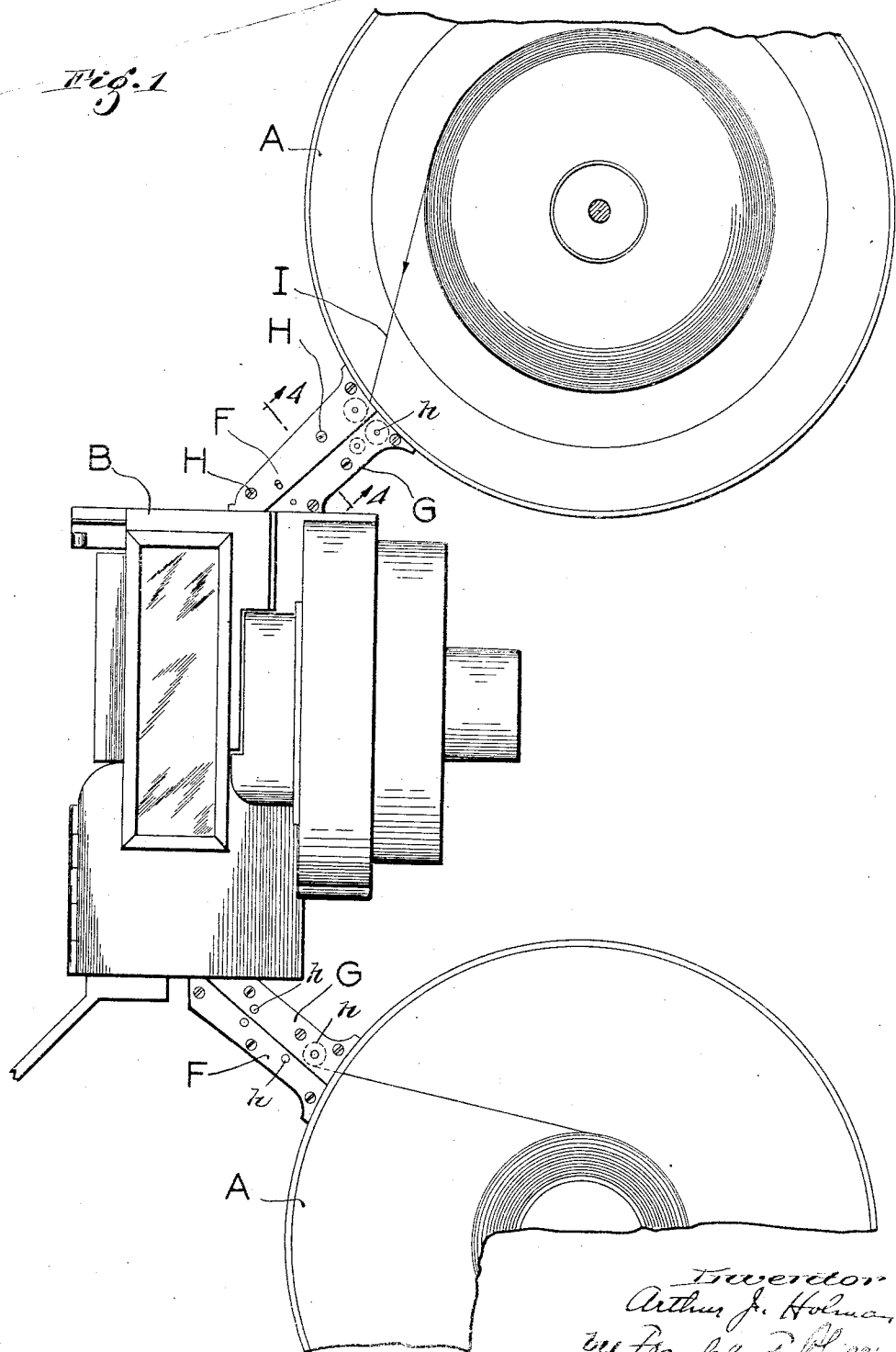
A. J. HOLMAN

1,845,840

MAGAZINE VALVE FOR MOVING PICTURE PROJECTORS

Filed Aug. 8, 1927

2 Sheets-Sheet 1



Inventor
Arthur J. Holman
by Franklin F. Phillips
his attorney

Feb. 16, 1932.

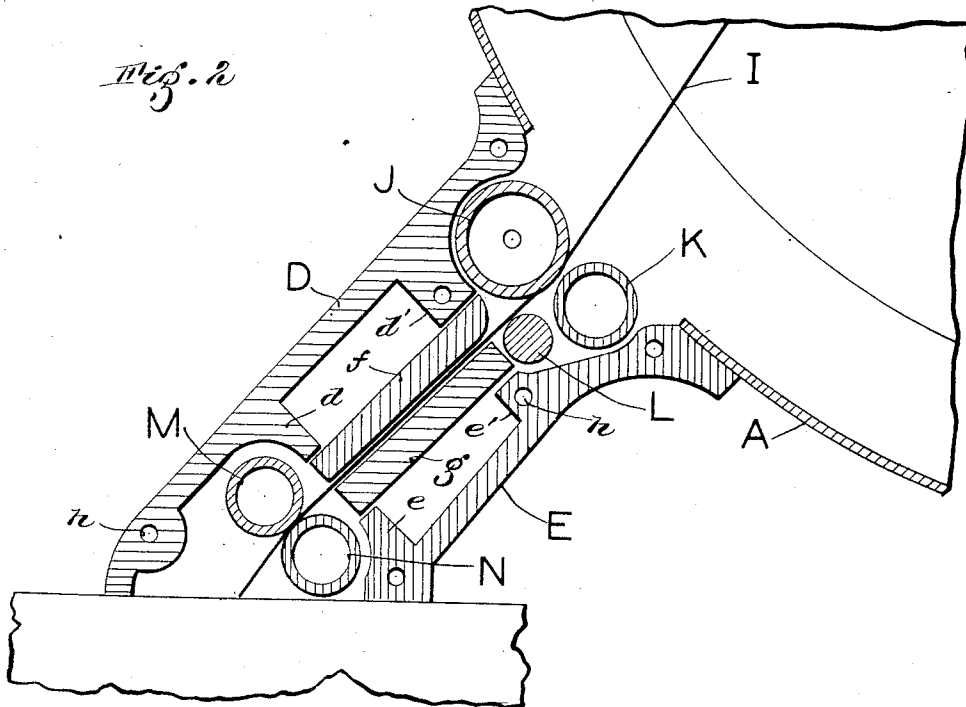
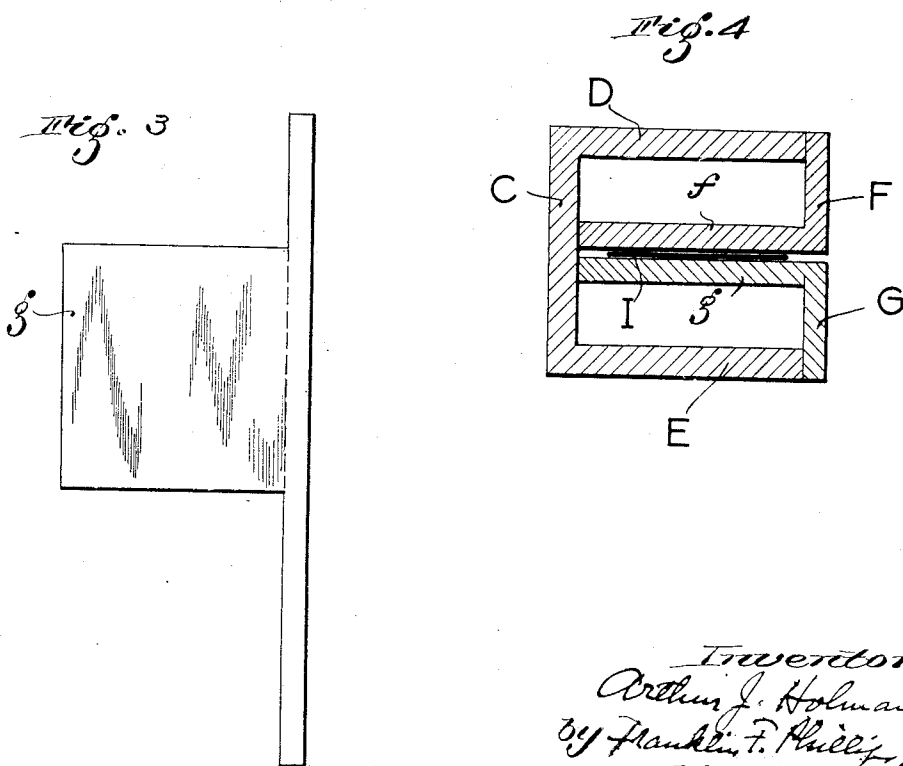
A. J. HOLMAN

1,845,840

MAGAZINE VALVE FOR MOVING PICTURE PROJECTORS

Filed Aug. 8, 1927

2 Sheets-Sheet 2



Inventor:
Arthur J. Holman
by Franklin F. Phelan, Jr.
his Attorney.

UNITED STATES PATENT OFFICE

ARTHUR J. HOLMAN, OF BOSTON, MASSACHUSETTS

MAGAZINE VALVE FOR MOVING PICTURE PROJECTORS

Application filed August 8, 1927. Serial No. 211,282.

My invention relates to the guideway or valve, so called, through which film is led either from the magazine containing the unwinding reel of film into the projector, or from the projector into the magazine containing the take-up reel. It has been the special object of my invention to so design and construct the magazine valve that, should the film in the projector start to burn, the fire will be choked and extinguished within the magazine valve before it can extend to the reel of film and cause a serious fire. It has been my aim to accomplish this object while at the same time so constructing the valve that the film may be easily threaded through the device when putting it in position for projecting the film pictures.

My device may be best understood by reference to the accompanying drawings, in which

Fig. 1 is a side view of a projector of the type shown in my Patent No. 1,584,098 dated May 11, 1926, showing upper and lower magazine valves connected therewith and also connected respectively to upper and lower magazines of conventional type for containing the reels of film. These magazines for containing the reels of film are shown partly broken away and the framework for supporting the magazines is not shown.

Fig. 2 is a vertical section of a part of the top magazine and its valve.

Fig. 3 is a top view of the bottom side plate of the valve shown in Fig. 2 showing the inwardly projecting plate integral therewith arranged to underlie the film.

Fig. 4 is a cross-section on line 4—4 of Fig. 1.

Referring now more specifically to the drawings in which like reference numbers indicate like parts, A is the upper magazine, A¹ the lower magazine. B is the projector. Each valve connecting magazines A and A¹ with the projector B is a metallic casting having a side wall C, and top and bottom walls D and E respectively (see Figs. 2 and 4). From the top wall D there extend inwardly ribs *d* and *d*¹ and from the bottom wall E there extend inwardly ribs *e* and *e*¹. The open front of the valve is closed by an upper

cover plate F and a lower cover plate G attached by screws H which enter threaded holes *h*.

The cover plate F is provided with an integral inwardly projecting plate *f* which extends across and adjacent the extremities of the ribs *d* and *d*¹, and the cover plate G is provided with an inwardly projecting plate *g* which extends inwardly and across the tops of the ribs *e* and *e*¹. The plates *f* and *g* are separated by a space of about one-sixteenth of an inch, thereby permitting a slight clearance for the film I as will be observed by reference to the drawings. The plates *f* and *g* are of substantial thickness and are formed of metal castings as above stated. As these plates *f* and *g* are made integral with the cover plates F and G, respectively, there is presented to the film, in close proximity to each side thereof, a considerable mass of metal, the use and advantage of which will be later explained.

Suitable rollers are provided between which the film may be run and guided evenly between the plates *f* and *g*. For the upper magazine valve, as the roll in this magazine is usually on the unwinding reel, I preferably provide rollers J and K, one of which will engage the film initially. As shown in Fig. 2 of the drawings, roller J is initially engaged as the film is being unwound, but in occasional instances where the film is led off the lower side of the reel instead of off the top it would contact with roller K. The roller L always supports and guides the lower side of the film whether or not that side of the film is in contact with the roller K. In the lower valve the lead of the film from the valve to the reel is always the same, and therefore in this valve the roller K is omitted. The rollers are suitably cut away in the usual manner so as to avoid frictional contact with the picture area of the film.

On the projector side of each valve there are provided a pair of oppositely placed rollers M and N to support and guide the opposite sides of the film strip so that the film strip will not drag on either the plate *f* or the plate *g*. All of the rollers are provided with suitable annular lugs *p* upon their ends, which

lugs upon one end enter and revolve in holes in the side wall C, while those upon the other end enter and revolve in opposite holes in cover plates F or G.

5 It will be observed in Fig. 4 that the film I sets well into the slot formed between the plates *f* and *g* so that its edge nearer the slot opening is located well within the slot. Should the film catch fire, as occasionally happens, because of heat from the condenser beam within the projector, the flame will quickly travel to that part of the film which is located between plates *f* and *g*, and when the flame has reached this point the heat conducting properties of the metallic plates *f* and *g* will quickly reduce the temperature of the flame below the ignition temperature of the film, and at the same time the fire will become choked for lack of oxygen within the confined space between these plates so that the fire will be quickly and completely extinguished before it can pass on to ignite the main body of film in the adjacent magazine.

I have thus provided a simple and effective means for choking and extinguishing a film fire before it can become dangerous while at the same time I have provided a simple valve apparatus through which the film can be easily inserted from the side without difficult manipulation, and may run without contact with the film on the picture area.

Having thus fully described my invention, what I claim is,—

1. In a device of the character specified, the combination of a casing connecting a film magazine with a projector mechanism and being structurally exterior to both, said casing being open at one side, means within said casing for positioning the path of the film, a pair of cover plates mounted upon the open side of said casing in slightly spaced relation whereby an opening is provided along the path of the film and plates projecting inwardly from each of said cover plates along said opening in a manner whereby there is formed a restricted passage for film, said cover plates being of substantial thickness.

2. In a magazine valve arranged to connect a film magazine and projector mechanism, the combination of a cast casing located exterior to said magazine and said mechanism, a plurality of rollers enclosed in said casing, said rollers having fixed axes of rotation and serving primarily the purpose of fixing the path of film through said magazine valve, and a pair of heavy metallic plates arranged and positioned to parallel the path of the film and to be in close proximity thereto throughout a large portion of said fixed path of said film.

ARTHUR J. HOLMAN.