Jan. 16, 1940. E. KANN 2,187,655

FILM CUTTER

Filed July 9, 1937

Fig. 1

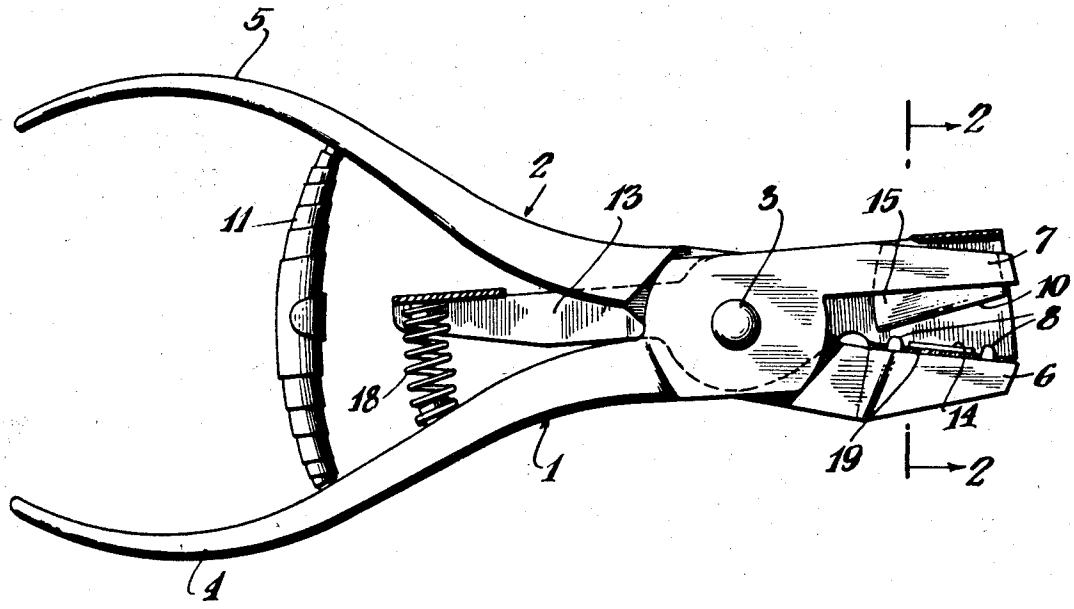


Fig. 3

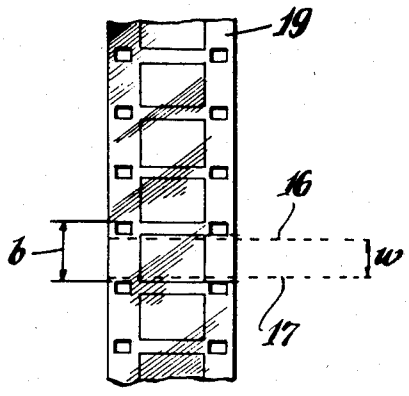
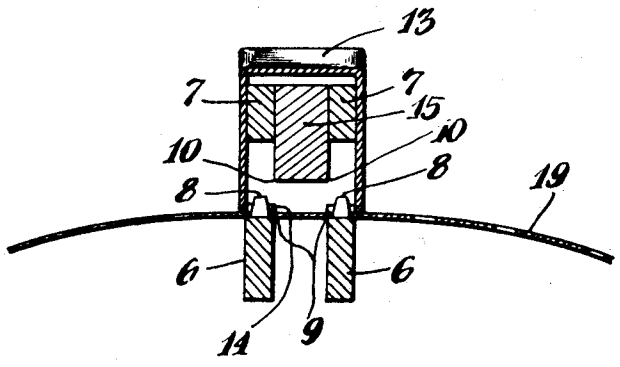


Fig. 2



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UNITED STATES PATENT OFFICE

2,187,655

FILM CUTTER

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2 Claims. (Cl. 30—233)

My invention relates to a device for use in editing motion picture films, and more particularly to a hand device for cutting and splicing such films.

The main object of my invention is to provide a simple, and inexpensive device for this purpose.

Another object of my invention is to provide a device which can be used to cut the film while it is still in the projector or viewing machine.

Another object of my invention is to provide a device in which the film is securely held during the cutting.

Further objects of the invention will appear as the specification progresses.

The device according to the invention in its preferred embodiment has a plier-like construction in which one jaw is provided with teeth adapted to engage the perforations of the film and with cutting edges which cooperate with cutting edges provided on the other jaw to cut the film.

To firmly hold the film in engagement with the teeth during the cutting, I provide film-holding means, which, upon actuation of the device, automatically engage the film prior to the cutting.

In order that my invention may be clearly understood and readily carried into effect I shall describe the same in more detail with reference to the accompanying drawing in which,

Figure 1 is a partly-sectionized side-view of a device according to the invention,

Fig. 2 is a sectional view along line 2—2 of Fig. 1, and

Fig. 3 is a plain view of a film showing the cuts in same.

The device illustrated in Figs. 1 and 2 comprises two levers 1 and 2 pivoted at 3 and having handle portions 4 and 5 respectively and jaw portions 6 and 7 respectively. The device is held in its open position by a compression member 11, shown as a helical wound strip of spring steel. As shown more clearly in Fig. 2 jaw portion 6 is provided with four teeth 8 spaced apart at the standard spacing of the film perforations and with two cutting edges 9, whereas jaw portion 7 is provided with a cutter 15 having two cutting edges 10 cooperating with edges 9. As shown, cutting edges 9 and 10 extend perpendicular to the longitudinal axis of a film 19, however if desired they may be inclined depending upon the type of splice to be made.

I make the distance between edges 9 about equal to the pitch of the picture frames minus the width of a full overlap. This is shown in Fig. 3 in which reference letter b represents the pitch of the perforations—which in the present instance is the same as the pitch of the picture frames—reference numerals 16 and 17 indicate the cuts made by the cutting device, whereas w represents the width of the cut. Thus, $w=b-$ the width of the overlap to be used on making the splice.

Pivoted at 3 is a lever 13 having a U-shaped cross-section. As shown in Fig. 2 one end of lever 13 is provided with inwardly bent fingers 14 which fit between teeth 8 and serve to firmly hold film 19 in engagement with the teeth. A compression spring 18 acts upon the other end of lever 13 and serves to provide the necessary pressure on the film. Upon closure of handle portions 4 and 5, jaw 7 together with lever 13 first move as a unit toward jaw 6 whereby fingers 14 engage film 19 and hold same in the correct engagement with teeth 8. The device is shown in this position in Figs. 1 and 2. Further movement of handles 4 and 5 move jaw 7 relative to lever 13 and jaw 6 whereby the cutting of the film is effected.

It will be noted that the device illustrated is very simple and inexpensive, while at the same time accurately located cuts are obtained. Furthermore, the jaw portion is sufficiently small to be inserted into a projector or viewing machine to cut the film therein. Thus, if a film is being projected and it is desired to cut out a desired portion, the cut may be effected while the film is in the machine. This is much simpler than prior methods in which indicating notches were provided in the film while in the machine, the film was removed from the machine and the cutting then effected on the usual cutting machine.

While I have described my invention in connection with a specific example I do not wish to be limited thereto, but desire the appended claims to be construed as broadly as permissible in view of the prior art.

What I claim is:

1. A plier-like hand device for cutting motion picture films, comprising two pivoted members having jaw portions and handle portions, one jaw portion having two cutting edges and teeth adapted to engage the perforation holes of the film, the other jaw portion being provided with cutting edges cooperating with the cutting edges of the first jaw upon actuation of the device, and means actuated by the movement of said handle portions to place the film in correct engagement with said teeth prior to the cutting and to compressively hold the film in this position during the cutting.

2. A plier-like film-cutting device for cutting motion picture films, comprising a lever having a handle portion and a jaw portion provided with two parallel cutting edges, a pivot secured to said lever, a second lever rotatably mounted on said pivot and having a handle portion and a jaw portion provided with teeth adapted to engage the perforation holes of the film and with two cutting edges adapted to cooperate with the cutting edges of the first jaw to cut a piece of predetermined length from the film, a compression spring acting upon said handle portions to hold said jaws in their open position, and means to place the film in engagement with said teeth prior to the closure of the jaws and firmly hold the same during the cutting thereof, said means comprising a lever rotatably mounted on said pivot and having an arm extending between said handle portions, and a compression spring between said arm and one of said handle portions, said film-holding portion being provided with fingers extending between said teeth and adapted to press the film into engagement therewith upon closure of said handle portions.

EDUARD KANN.