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E. NAKAGOME

3,424,644

FILM SPLICE PATCH

Filed Sept. 22, 1965

Fig. 1.

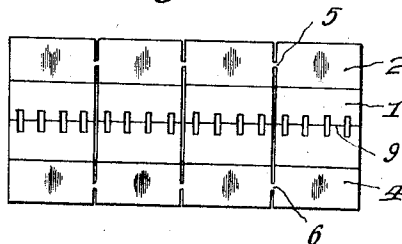


Fig. 2. *Fig. 3.* *Fig. 5.*

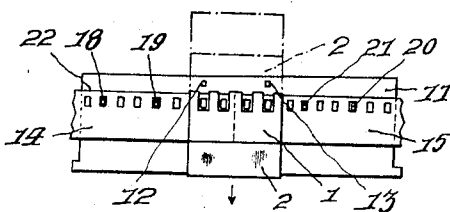
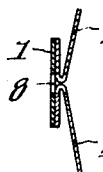
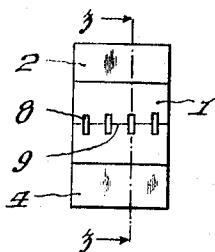


Fig. 4. *Fig. 6.* *Fig. 7.*

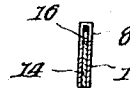
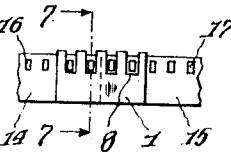
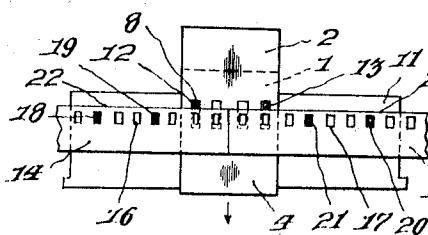
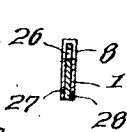
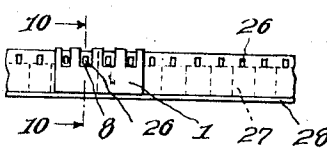
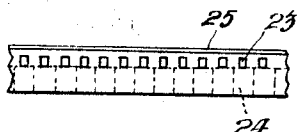


Fig. 8. *Fig. 9.* *Fig. 10.*



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3,424,644

FILM SPLICE PATCH

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4 Claims

ABSTRACT OF THE DISCLOSURE

A folding splice patch for securing together a pair of motion picture film strips having single rows of perforations along one edge of the film comprises a rectangular transparent backing sheet having one face coated with pressure-sensitive adhesive material and being fitted with a pair of folded protective strips each having a first panel portion substantially conforming to and adhering to one half of the coated face of said sheet on one side of a median folding line of the sheet, with the folding edges of the strips abutting one another along said line and second panel portions of the strips overlying said first portions forming finger-gripping flaps. The assembled sheet protective strips are provided with a single row of perforations spaced along and symmetrically to said line, said perforations being spaced by intervals equal to the perforation spacing intervals of said film strips and having a length at right angle to said line in excess of twice the length and a width slightly greater than the width of the film perforations.

The present invention relates to a tape to be used for splicing a film in case of redacting 8-mm. cinema film having perforations along the edge on one side.

Hitherto the splicing of such 8-mm. film has been carried out quite ineffectively by a process under which film strip is cut off, the emulsion on the splicing face is scrapped off by means of a file, a bonding agent is applied thereto for subsequent overlapping and pressure splicing, and such process has the further disadvantage that the spliced portion is liable to come off. To eliminate these disadvantages, a number of splicing tapes (patches) have recently been invented. In case of one of such methods, two pieces of symmetrical splicing tapes having perforations matching those of a film are prepared individually and placed on both sides of a film strip, to make the respective perforations match each other and then spliced together. However, such methods have the disadvantages in that preparation of two pieces of tapes is troublesome and in addition, it takes considerable time and labor to make the respective perforations completely coincident with each other. U.S. Patent 2,969,106 is the one which has eliminated such disadvantages. This invention relates to such a type in which the aforementioned two pieces of splicing tapes are connected as one piece along the edge opposite to perforations, in other words, along both edges of a piece of tape having the same size as 16-mm. film, two rows of perforations corresponding to those of 16-mm. film are provided and the tape is applied flatly as a piece as it is and spliced to 16-mm. film whereas in the case of 8-mm. film of 16-mm. series, the tape is folded in two along the center part and spliced to both sides of the film along its perforations on one edge. And, on the splicing face of this tape, two pieces of liners having respectively the same perforations as the film as well as the extension pieces are bonded beforehand on both sides of the center part to facilitate the splicing process. However, even this invention has the manufacturing and economic disadvantage in that two rows of upper and lower perfo-

rations are to be provided on a piece of tape and in case of splicing, complete matching of tape perforations with those of film is difficult, frequently causing displacement, and further the splicing is principally intended for 16-mm. film or 8-mm. film of 16-mm. series and the tape cannot be applied as it is to the recent film like "super" or "single" 8-mm. Accordingly, in such case, it is necessary to prepare a tape having the size suited to these films. However, even in this case, it has been experienced that the tape has the disadvantages of being not at all applicable to the case where the film is provided with a magnetic sound-recording track, and so on.

The purpose of the present invention consists in making the splicing process quite quick, simple and reliable by providing a row of rectangular holes larger than the conventional ones at an interval of film perforations in approximately the center of the splice tape body.

Another purpose of the present invention is to facilitate the fabrication of a splice tape and provide it economically.

Another important purpose of the present invention is to reinforce the perforated side of a splicing film by wrapping its perforated side.

Another purpose of the present invention is to provide a splice tape suited to the recent special film like "super 8-mm." or "single 8-mm."

Another important purpose of the present invention consists in the safe splicing of those recent 8-mm. films like the ones mentioned hereinbefore which are provided with a magnetic sound-recording track, without impeding such track.

The present invention is explained with reference to the attached drawings of embodiments as follows:

The tape according to the present invention is, in principle, of a fixed size as in the case of the 16-mm. series splice patch of aforesaid patent in that it cannot be applied to the splicing of both 8-mm. and 16 films without modification. Nevertheless, with respect to these films, the respective splicing purpose can be achieved in getting ready the tapes of respective sizes beforehand.

Accordingly, explanations are first given, generally taking up 8-mm. cinema film and regardless of the tape being principally intended for 16-mm. series or not, of the case in which such 8-mm. film is spliced, referring to the drawings to that effect. Subsequent explanations are made with reference to the supplementary drawings related to the splicing of super eight film with magnetic sound-recording track.

FIG. 1 is a plan view indicating a strip of splice tape according to the present invention.

FIG. 2 indicates a plan view of a piece of splice tape cut off from the aforementioned strip at the time of use.

FIG. 3 is a longitudinal section of FIG. 2 along the line 3-3.

FIG. 4 and FIG. 5 illustrate the splicing process.

FIG. 6 is a plan view illustrating two pieces of film spliced with the tape of the present invention.

FIG. 7 is a longitudinal section of FIG. 6 along the line 7-7.

FIG. 8 is a plan view illustrating an 8-mm. film having a sound recording track thereon.

FIG. 9 is a plan view illustrating another 8-mm. film having the splice patch of the present invention wrapped thereabout.

FIG. 10 is a longitudinal section of FIG. 9 along the line 10-10.

In FIG. 1, 1 represents a splice body made of transparent material; 2 and 4 the protective paper separately bonded to the back of the body along the center portion, with each protective paper 2, 4 accompanying the respective tape body 1 being connected in such a manner as to be cut off freely in the part 5, 6.

In FIGS. 2 and 3, two pieces of tape protective paper 2 and 4 which are folded in two with a cross section of L shape are pasted to the splice tape body 1 by means of a bonding agent applied to its splicing face (corresponding to the back in FIG. 2), in such a manner that said folded edges are adjacent to each other at the center of tape body. In the vicinity of the center portion of the tape body 1 as well as the folded portion of each protective paper and at an internal equivalent to the film perforation, several rectangular holes 8 are provided, which are larger than the holes perforated in a film; that is, the holes are much longer in the direction at right angles with the row of perforated holes and a little larger in the direction parallel to it. A folding line 9, if provided beforehand along the center of tape body 1 as indicated in FIG. 2, will offer the convenience in the case of subsequent folding of tape at its center.

FIG. 4 and 5 illustrate the splicing process of this film splice tape. In applying the splice tape according to the present invention, first the tape body 1 is placed on the splicing film aligning plate 11 in such condition that tape protective papers 2 and 4 face upward (contrary to the case of FIG. 2), and the upper parts of its perforations 8 are hitched over the projecting pins 12 and 13 provided on the aligning plate and fixed in position.

Next, on this, two pieces of film strips 14 and 15 to be spliced are placed in such manner that they butt against each other approximately at the center of tape body, and fixed in position by hitching their perforations 16 and 17 over the lower projecting pins 18, 19 and 20, 21 of the aligning plate 11. At this time, the upper edge portion 22 of two pieces of film strips 14, 15 is fixed along the folding line 9 of tape body as illustrated in FIG. 4. Then, lightly holding down the vicinity of the center butt portion by the left hand fingers, the tape protective paper 4 on the back is held between the right hand fingers and pulled at which time the tape protective paper 4 is detached from the adhesives applied to the tape body 1 and simultaneously with this, the tape body 1 splices the back of the splicing portions of film strips 14 and 15 by means of its bonding agent.

Next, as indicated in FIG. 5 the tape body 1 and the protective paper 2 are held between the right hand fingers, the caught condition between its perforations 8 and upper projecting pins 12, 13 is loosened and while folding the tape body along the folding line 9, the protective paper 2 is pulled and the tape body is held down lightly at its top at which time it is spliced, by virtue of the bonding agent applied to it, to the top of the film strips 14, 15 whose back side has previously been spliced. Then, they are removed from the projecting pins 18, 19, 20, 21 on the aligning plate and 8 mm. film firmly spliced with its perforated side being wrapped as indicated in FIG. 6 and FIG. 7 can be obtained easily.

Described above is the splicing process related to 8-mm. film of 16-mm. series without magnetic sound-recording track of super eight film. In the case of 8-mm. film of 16-mm. series, as known and as indicated in the plan of FIG. 8, its perforations 23 are large and accordingly the image area 24 is comparatively small and occupies the entire lower area, as a result of which the magnetic sound-recording track 25 of this film is provided in the upper edge portion of perforations 23. Consequently, the splice tape according to the present invention which is provided with a row of perforations in its center portion and intended for wrapping the film perforations 23, will wrap and conceal the magnetic sound-recording track 25, factually making it inappropriate to use the film.

However, a super eight film has recently been modified in such manner that its perforations 26 are smaller and the image area 27 is larger as illustrated in FIG. 9, for the purpose of enlarging the picture area and independently of the aforesaid 16-mm. series, and the magnetic sound-recording track 28 is accordingly provided along the lower edge of image area opposite to the perforations.

In the case of splicing such 8-mm. film, the use of a 16-mm. film series splice tape (patch) provided with 2 rows of upper and lower perforations and intended for splicing towards the perforated side by wrapping the lower edge of image area from the side opposite to the film perforations is clearly unsuitable in view of the position of sound-recording track. However, the present invention can be applied most suitably to such a case. That is to say, without changing the purport of the invention, the splice tape 1 is prepared beforehand in such condition that one side or both sides of the center folding line 9 is narrower by the width of sound-recording track 28, and such tape is spliced in the manner as illustrated in FIG. 4 and FIG. 5. Thus, both film strips can be spliced satisfactorily in a manner quite contrary to the case of 16-mm. series splice tape, without wrapping and concealing the magnetic sound-recording track 28 as illustrated in FIG. 9 and FIG. 10.

As described, the present invention has the characteristic features not to be found in any 16-mm. series splice tapes.

What I claim is:

1. A film patch for securing together two motion picture film strips having a single line of perforations along one edge of the film comprising in combination:

- (1) a transparent rectangular backing sheet having one side coated with a layer of pressure-sensitive adhesive material,
- (2) a pair of protective strips having first panel portions substantially conforming to one half of said sheet on either side of a median folding line thereof and having second panel portions folded about said first portions,
- (3) said protective strips being affixed to said sheet with each of said first panel portions adhering to one half of said sheet and with the folding edges of the strips abutting one another along said folding line, to provide finger-gripping flaps by said second panel portions, and
- (4) a single row of oblong rectangular perforations in said sheet and the superposed protective strips disposed along and symmetrically to said line, said perforations having spacing intervals equal to the spacing intervals of the perforations of said film strips, and
- (5) said perforations having a length at right angle to said line in excess of twice the length and having a width being slightly greater than the width of the film perforations.

2. In a film splice patch as claimed in claim 1, said second panel portions of said protective strips projecting beyond the edges of said sheet parallel to said folding line.

3. In a film splice patch as claimed in claim 1, said first panel portions of said strips having a width at right angle to said folding line equal to the width of said film strips.

4. In a film splice patch as claimed in claim 1, said film strips having a sound track upon their edge opposite to the film perforations and said first panel portions of said protective strips having a width at right angle to said folding line equal to the width of said film strips less the width of said track.

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U.S. Cl. X.R.

161—113, 406; 352—233