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S. M. WEEKS

2,739,338

FILM DRYER

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Fig. 1

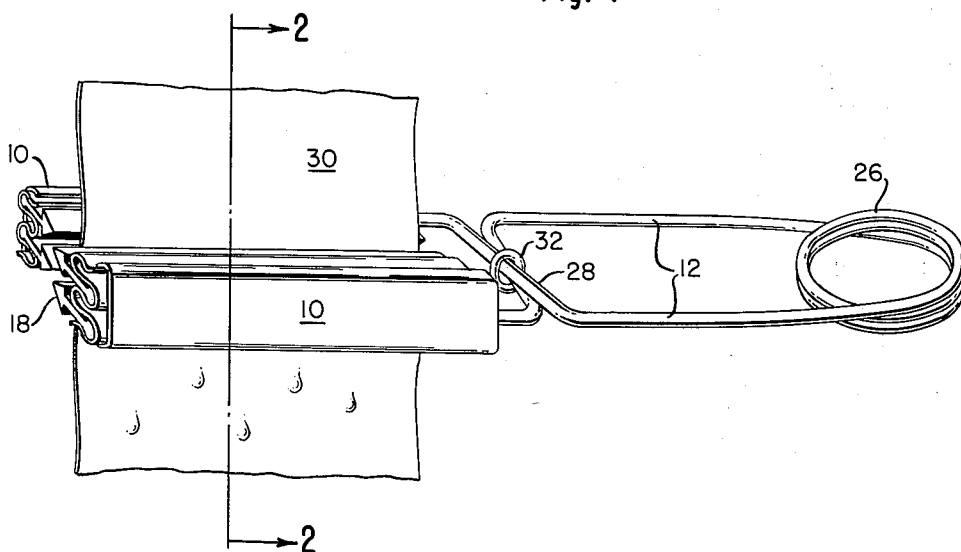
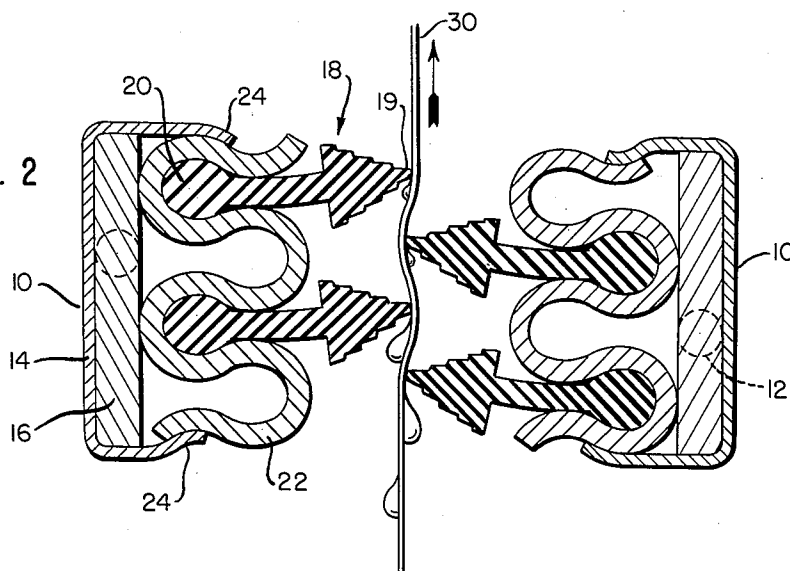


Fig. 2



INVENTOR.
SHERMAN M. WEEKS

BY

Kenway, Tenney, Witter & Milderich
ATTORNEYS

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FILM DRYER

Sherman M. Weeks, Boston, Mass.

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1 Claim. (Cl. 15—245)

This invention relates to a novel device particularly adapted to wipe photographic films and other like flexible sheet materials. The primary object to be accomplished is to remove all excess water from the film surfaces by a single wiping thereover without scratching or damaging the film.

Film wipers in present use are based on the principle of absorbing the water into sponglike wipers which are moved repeatedly over the film. These wipers not only require repeated wipings to dry the film, but also generate static electricity that attracts dust to the film surfaces. Absorbent wipers, being porous, also collect chemicals and grit that smudge and scratch the film and leave droplets on the film that cause uneven drying with consequent out-of-focus trouble.

My invention contemplates the employment of a plural blade squeegee with opposed blades so relatively offset in alternate arrangement that the blades contact the film surfaces in straight and parallel lines and serve to remove all moisture at a single wiping, thereby performing the wiping operation quickly, efficiently and conveniently and eliminating the objections heretofore present. Squeegee wipers with blades in directly opposed relation squeeze out of straight alignment and make uneven contact with the film when pressure is applied, thereby causing uneven and faulty wiping. The production of a new and improved wiper of the nature above and hereinafter described comprises the primary object of the invention.

These and other objects and features of the invention will be more readily understood and appreciated from the following detailed description of a preferred embodiment thereof selected for purposes of illustration and shown in the accompanying drawing in which:

Fig. 1 is a perspective view of a film dryer embodying my invention,

Fig. 2 is an enlarged sectional view taken on line 2—2 of Fig. 1.

My improved film dryer comprises a pair of squeegee members 10 illustrated in the drawing as mounted on the free ends of a wire holder 12 providing a handle for the dryer. Each member 10 comprises a shell 14 open at one side and having a filler block 16 seated therein. The ends of the handle 12 extend into the blocks to support the members on the handle.

Each member 10 supports two squeegee wiper blades 18 each having a forwardly projecting and V-shaped wiping extremity 19 and a relatively parallel and integral rearwardly projecting portion 20. A serpentine element or block 22 rests on the block 16 within each shell and is supported therein by clips 24 on the shell in engagement with opposite sides of the element. The serpentine element has open recesses therein receiving the portions 20 of the blades and serving to support the blades on the members 10. As illustrated in Fig. 2 of the drawing, the two serpentine elements are so reversed in position that they support the wiper blades in offset arrangement with the two wiper blades on each

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member disposed at opposite sides of a blade on the other member. Each block unit including its two wiping blades and the supporting block 22 is removable from and replaceable in the shells 10 between the clips 24.

The handle 12 is coiled at its end 26 normally to move the two legs 12 of the handle outwardly away from each other and the transverse portions 28 are so disposed that the coil 26 normally forces the members into blade abutting contact with a film 30 disposed therebetween. A ring 32 on the portions 28 of the handle serves to maintain the members in alignment. The spring 26 is made to give the desired wiping pressure and the members can be separated by squeezing the handle.

A film 30 to be dried is placed between the members 10 as illustrated and is drawn upwardly therethrough in the direction of the arrow, Fig. 2. The blades thereupon wipe the water from the film, the first opposed blades serving to wipe off the major portion of the water and the second opposed blades completing the wiping operation. It is particularly noted that the oppositely disposed blades oppose each other and the wiping tip 19 of each blade engages the film along a straight and continuous line. The alternate opposing action of the blades holds the film in a wave path (Fig. 2) with each blade engaging the film along a straight line at the bottom apex of a wave. The blades completely remove the water and dry the film at a single wiping. Thus the film is dried faster, cleaner, with less static electric charges, and without the collecting of grit or chemicals that would damage the film.

I am aware that wipers employing two directly opposed wiping blades have been suggested. When used on a flexible sheet such blades slip past each other and result in misalignment along the wiping line. Droplets are thereupon left on the film, which is also true of absorbent wipers, and create an uneven drying on the negative causing it to warp and produce a print partly out of focus. The complete dry wiping resulting from use of my dryer totally eliminates this objection. It will be apparent from Fig. 2 that the amount of pressure exerted on the film is of considerable importance and it is pointed out that my wiper is provided with a factory pre-set spring action that will exert the proper wiping blade pressure on the film surfaces for the useful life of the wiper. One passage of the film through my dryer removes all the excess water so that the film can then be thoroughly dried without leaving any water marks or causing any buckling of the film and eliminates the objects present in dryers heretofore known.

Having thus disclosed my invention, what I claim as new and desire to secure by Letters Patent of the United States is:

A film dryer comprising a frame embodying a length of resilient material having its intermediate portion formed into an outwardly expanding loop with the two ends thereof extending from the loop in spaced and substantially parallel handle forming reaches and from thence each reach extending transversely toward and approximately to the other reach and then outwardly therefrom away from the loop to provide two spaced end portions disposed outwardly beyond the transversely extending portions of said reaches, and two parallel squeegee members respectively mounted on said end portions outwardly beyond said reaches and embodying a plurality of wiper blades in opposed relation, the wiper blades on the two members being in parallel relation and relatively offset with two wiper blades on one member disposed at opposite sides of a blade on the other member, said intermediate loop portion being pre-set to expand with predetermined force and move said blades together in predetermined pressure contact with a film placed

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therebetween, squeezing the said handle reaches being adapted to separate the squeegee members and blades.

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