Jan. 9, 1940. N. E. WILSON 2,186,891

FILM HANGER

Filed Feb. 23, 1939

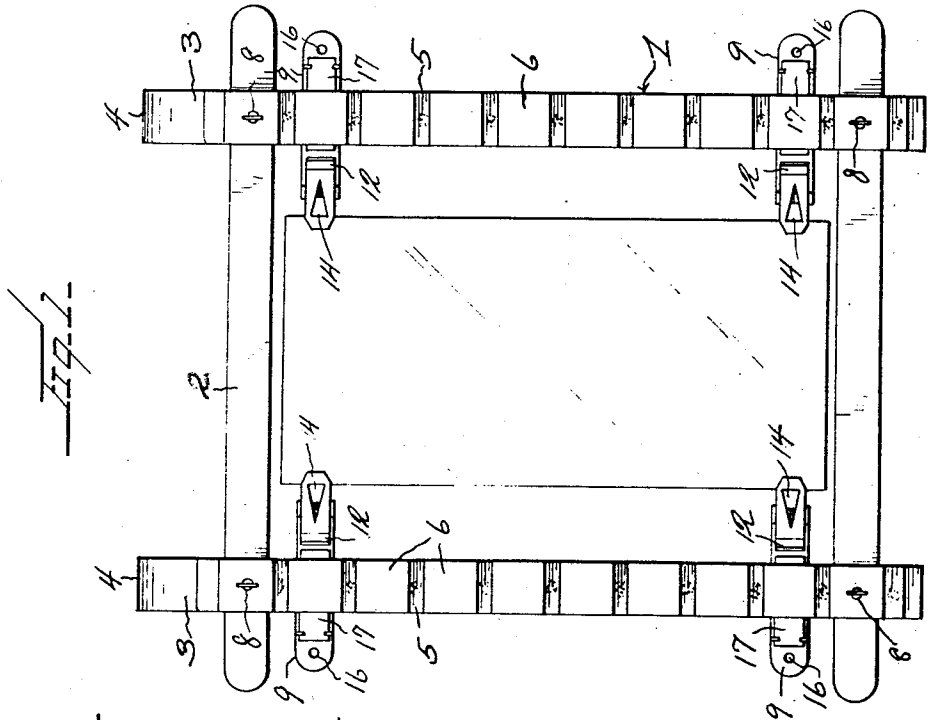


Fig. 1

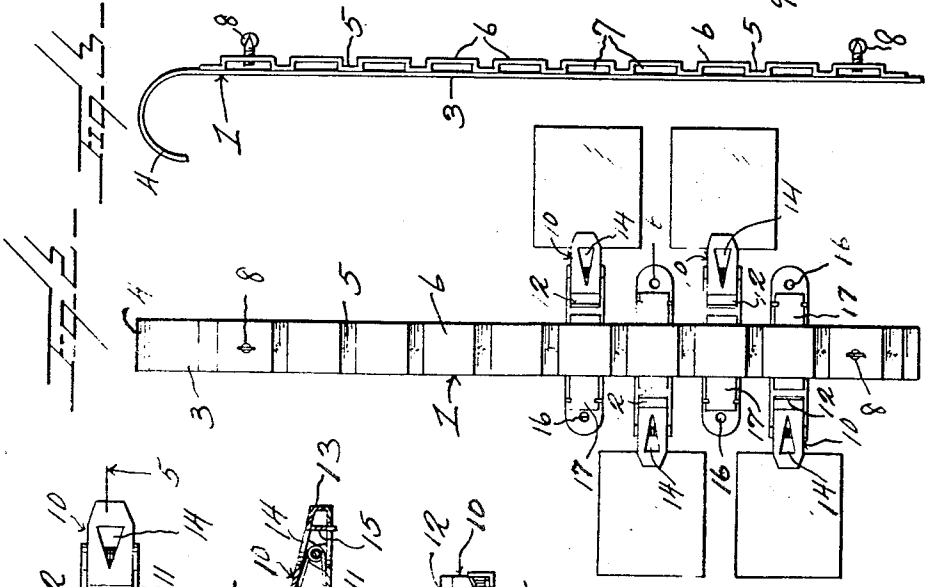


Fig. 3

Fig. 2

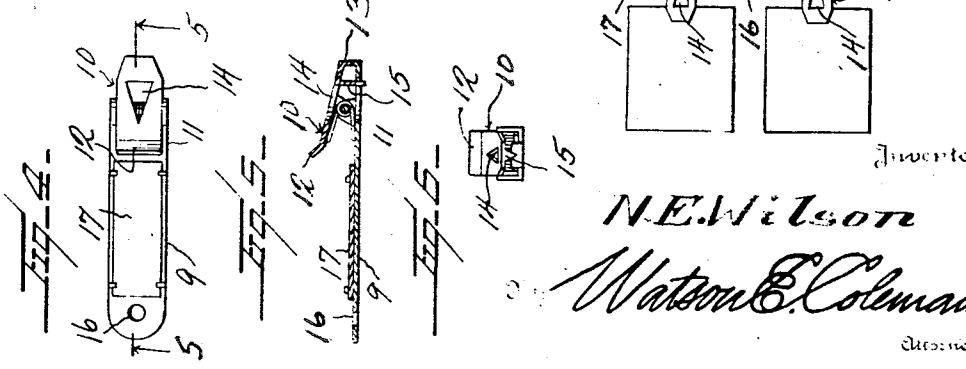


Fig. 4

Fig. 5

Fig. 5

Inventor

N. E. Wilson

Watson E. Coleman

Attorney

Patented Jan. 9, 1940 2,186,891

UNITED STATES PATENT OFFICE

2,186,891

FILM HANGER

Nolan E. Wilson, Homer, La., assignor to Irwin C. Rinn, Chicago, Ill.

Application February 23, 1939, Serial No. 258,045

6 Claims. (Cl. 95—100)

This invention relates to the class of hangers or supports and pertains particularly to an improved supporting means for films for use during developing of the same.

The present invention has for its primary object to provide a novel film supporting device which is so designed that it may be employed for suspending a single large film of the X-ray or other type or a series of small films such as are used by dentists in connection with the X-raying of teeth, in such a manner in a developing tank that the films will be securely retained in position and the smaller ones thereof will be kept separate so that each may be readily identified after the development of the same is completed. Another object of the invention is to provide a film carrier or support having associated therewith a novel means for identifying films attached thereto so that it is not necessary in arranging the films on the support preparatory to immersing them in the developing solution, to place the films in any definite order so that they may be properly identified when removed as each film is identified by suitable marking upon the part of the support by which it is attached.

A further object of the invention is to provide a novel film clip having associated therewith means for making a record for the purpose of identifying the particular film which the clip engages.

Another object of the invention is to provide a supporting rack or bar designed to have a series of the above described identifying clips readily detachably connected therewith whereby any number of X-ray or other films may be mounted upon the support without regard to the order of the mounting and may be easily and quickly identified when removed after the developing operation is complete.

Other objects and advantages of the invention will become apparent as the description proceeds and the invention will be best understood from a consideration of the following detailed description taken in connection with the accompanying drawing forming part of this specification, with the understanding, however, that the invention is not to be confined to any strict conformity with the showing of the drawing but may be changed or modified so long as such changes or modifications mark no material departure from the salient features of the invention as expressed in the appended claims.

In the drawing:

Fig. 1 is a view in elevation of the device embodying the present invention in use for the support of a single large film negative.

Fig. 2 is a view in elevation of one hanger bar showing the use of the same for the support of a number of small negatives.

Fig. 3 is a view in edge elevation of a hanger bar per se.

Fig. 4 is a view in plan of a film clip per se.

Fig. 5 is a longitudinal section on the line 5—5 of Fig. 4.

Fig. 6 is a view in front elevation of the clip.

Referring now more particularly to the drawing, the numeral 1 generally designates one embodiment of the present invention whereby a single large film may be mounted for suspension in a developing tank. This structure comprises a frame which is made up of the two side hanger bars 1 and cross connecting bars 2. Each of the hanger bars comprises a strip or band of metal 3 having one end turned or curved to form a suspension hook 4. Extending longitudinally of one side of each hanger 1 is a band of metal 5 which is provided with a series of spaced parallel outpressed portions 6 and the areas between these portions are in abutting relation with the bar 3 and welded or otherwise suitably secured thereto so that the outpressed portions provide transverse guides 7.

The cross bars 2 are of the proper width to slidably engage in any of the guides 7 but they are preferably engaged in only the end ones as shown, and they may be secured therein by means of set screws 8 which are threaded through the end offsets 6 for frictional contact with the bars 2 so that the hangers 1 may be maintained in any desired spaced apart relation.

Each of the guides 7 is designed to receive the relatively long tail-like extension 9 of a clip member 10. Each clip member has a body portion 11 from which the tail 9 extends and an oscillatable portion 12 which is pivotally mounted upon the body and which is normally urged by a suitable spring in a direction to move the fixed and movable jaws 13 into gripping relation.

The top and bottom sides of the body 11 and movable portion 12 of the clip are provided with apertures 14 which are formed by striking out a triangular section of the metal of the clip and one of these triangular pieces is turned to extend inwardly, as indicated at 15, crossways of the clip in back of the jaw to serve as a stop for limiting the movement of a film between the jaws. The apertures 14 are provided to permit of the easier and more thorough washing of the clips as they are shifted from one solution to another.

The end of the tail portion 9 of each clip is provided with an aperture 16 and between the aperture and the clip proper there is secured to one face of the tail portion a white composition or Celluloid marking tag or strip 17 on which identification marks or symbols may be made by a suitable marking device such as a lead pencil or the like for identifying a film held between the jaws of the clip.

The tail portion 9 of each clip is of a width to snugly frictionally engage in a guide 7.

In the use of the device as illustrated in Fig. 1, four clips are employed, two upon each hanger 1, in the manner illustrated so that each clip may engage a film adjacent one corner thereof to suspend the same within the frame which is formed by connecting the hangers 1 by the bars 2 in the manner illustrated.

For the use of the device in the developing of a number of small films such as a series of X-ray films of the type employed for X-raying the teeth, a hanger 1 will be employed alone as illustrated in Fig. 2, with a number of clips engaged in the guides 7 as shown, the clips being arranged to have their jaws alternately oppositely directed so that a series of films may be held in vertical edge of edge relation. These hangers 1 may be provided with any desired number of guides for carrying any number of film engaging clips and all of the metal parts of the device are preferably formed of chromium, Monel metal or any of the nickel-cobalt alloys, which will not be affected by or contaminate the developing solutions.

By providing the tail-piece of each clip with the aperture 16, each clip may be used alone or independently of the hanger if desired, so that it will be readily seen that while each clip may have individual use, it is designed to form a part of an organization whereby a series or group of films may be conveniently mounted upon a single hanger for suspension in a developing tank.

By providing the tail-piece on each clip and the composition or Celluloid marking tag integral therewith, the film carried by the clip may be marked for identification and thus when a set of films is to be developed at one time, it will not be necessary to arrange them in any particular order on the hanger so as to facilitate convenient identification after the developing is over, as each film will be identified by the marking upon the tag which forms an integral part of the clip. In this way the possibility of getting pictures mixed or misplaced during the developing process is entirely eliminated. The device as herein described also assures of quick, positive and accurate mounting of the films and the construction by which the clips may be applied or removed to the hanger as required eliminates the necessity of handling clips on the hanger which are not in use.

What is claimed is:

1. A film hanger of the character described, comprising a pair of hanger bars each having a series of transversely extending guides integral therewith, connecting bars between the hanger bars each having an end slidably extended through a guide, and film engaging clips each including a gripping jaw and a tail-piece, the tail-piece of each clip being designed for frictional engagement in a guide whereby the jaws of the clips may be arranged for the suspension of a film between the hanger bars, and means for suspending the bars in a developing tank.

2. A film support or hanger, comprising a bar member formed at one end to provide a suspension hook, means forming a series of guides transversely of said bar, and a clip member having a film gripping jaw and a tail-piece adapted for selective frictional engagement in said guides.

3. A film support or hanger, comprising a bar member formed at one end to provide a suspension hook, means forming a series of guides transversely of said bar, a clip member having a film gripping jaw and a tail-piece adapted for selective frictional engagement in said guides, and means upon the said tail-piece of the clip facilitating the making of a record thereon.

4. A support of the character described, comprising a relatively long flat strip of material formed at one end to provide a suspension hook, a second strip secured longitudinally of and on one face of the first strip, said second strip having longitudinally spaced transversely extending offset portions forming with the first strip guide openings, and a clip member having a relatively long flat tail portion adapted for selective frictional engagement in said guide openings.

5. A supporting clip of the character described, comprising a body having a fixed lower portion and a movable top portion pivotally coupled therewith, the said portions of the body having coacting jaw members, resilient means normally urging said jaw members into gripping relation, the said bottom portion of the body having a relatively long tail-like extension of flat form and provided at its outer extremity with an aperture, and a body of material secured to one face of said tail-like extension and adapted to have a pencil record made thereon.

6. A supporting clip of the character described, comprising a body having a fixed lower portion and a movable top portion pivotally coupled therewith, the said portions of the body having coacting jaw members, resilient means normally urging said jaw members into gripping relation, the said bottom portion of the body having a relatively long tail-like extension of flat form and provided at its outer extremity with an aperture, a body of material secured to one face of said tail-like extension and adapted to have a pencil record made thereon, and the said portions of the member having openings formed therethrough by striking inwardly a portion of the material of which the body is formed, the instruck portion of material from one body portion being disposed transversely of the body inwardly of said jaws to form a stop means for an article inserted between the jaws.

NOLAN E. WILSON.