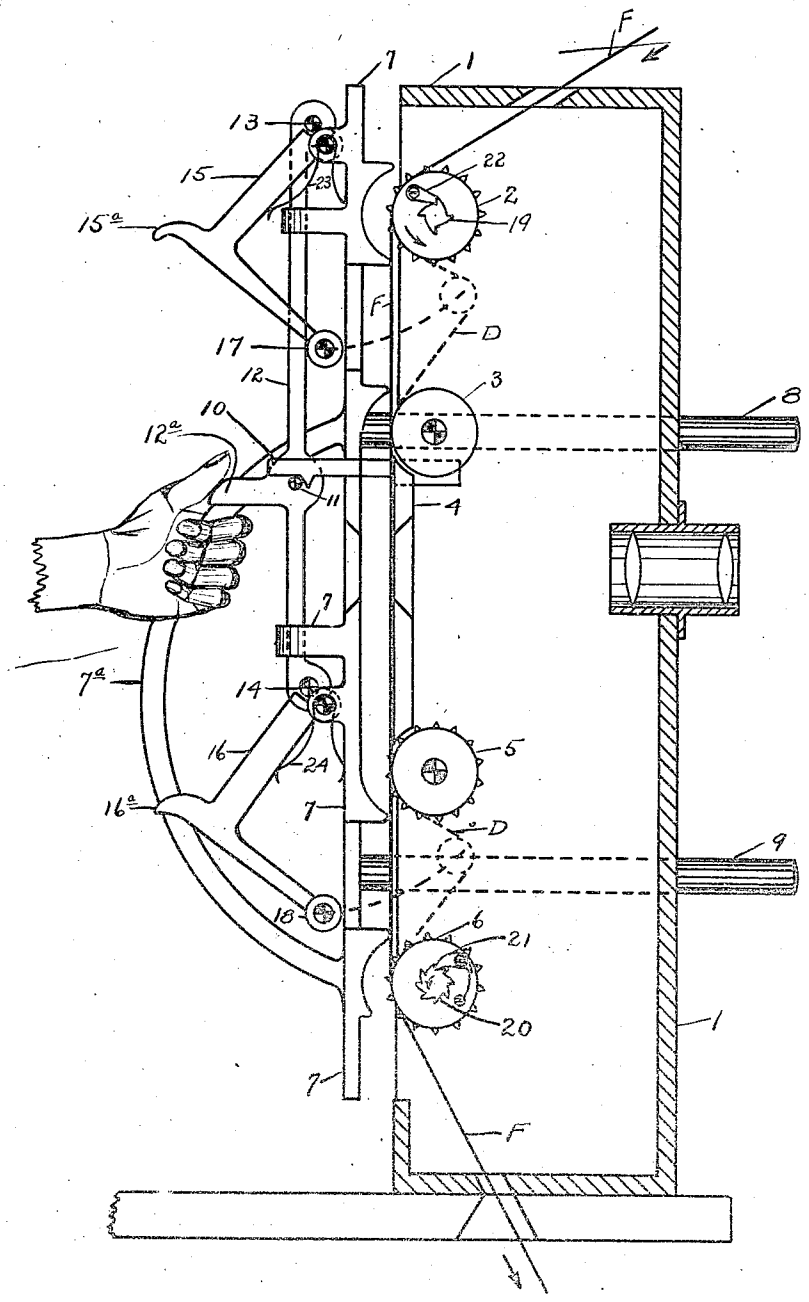
W. WENDERHOLD.

THREADING AND LOOPING DEVICE.

APPLICATION FILED JAN. 12, 1917.

1,402,273. Patented Jan. 3, 1922.



WITNESSES:

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THREADING AND LOOPING DEVICE.

1,402,273. Specification of Letters Patent. Patented Jan. 3, 1922.

Application filed January 12, 1917. Serial No. 141,985.

To all whom it may concern:

Be it known that I, WILLIAM WENDERHOLD, a citizen of the United States, residing at New York city, in the county and State of New York, have invented certain new and useful Improvements in Threading and Looping Devices, of which the following is a clear, full, and exact description.

The object of my invention is to provide mechanical means that will enable the operator to make a uniform loop in the film when threading the same in a motion picture apparatus and during the operation thereof.

Another object is to utilize the motion of the usual film guide door to operate the elements engaged in the function outlined.

Another object is to operate a plurality of such devices simultaneously by use of the motion of the guide door and independently of each other when so desired.

I do not limit myself, however, to the particular design, as same can be altered without leaving its principle. The device will make a loop of positive size and in less time than is required by the usual threading operation and is not to be confused with so-called loopsetters, which are operated by the film. This device is operated by hand and will make loops as well as reset them independently of the film whenever the operator should desire to do so, as the loops may reduce and he can do so during the operation of the motion picture apparatus, and when threading the film the closing of the usual film guide door will operate the loop making elements.

In the drawings,

The figure is a vertical elevation showing the device as installed in the usual arrangement of a motion picture apparatus.

Referring to the drawing, 1 is the support of the motion picture apparatus elements, 2 is the regular upper feed, 3 is a guide roller above the aperture plate 4, 5 is the regular intermittently driven feed sprocket, 6 is the usual lower feed sprocket, 7 is the usual film guide door in which the principal parts of my device are mounted, but they also could be mounted in the general frame 1.

To operate my device, the film band F is laid straight down through the motion picture apparatus as shown in the drawing. The door 7 is supported by the bars 8 and 9 and can be moved to and from the motion picture apparatus 1, as the bars 8 and 9 (upon which is fastened the door 7) are slidably mounted in the support frame 1 (the door could also be hinged as usual). In the drawing the door 7 is shown partly away from the motion picture apparatus 1. The film as laid across is not in an operative position, as loops have to be formed above and below the aperture 4. The device will form loops of definite size as follows:

When the door 7 is pushed further against the frame 1, the projecting member 10, having a high ridge and being stationary, will press downward the pin 11, which is mounted in a movable bar 12, the movable bar 12 being moved with said pin 11 and having mounted in the upper and lower end another pin 13 and 14, thereby forcing the pivotally mounted brackets 15 and 16 a predetermined distance against the film F, thereby causing a loop therein as indicated by the dotted lines D. Upon brackets 15 and 16 is mounted, preferably, a roller 17 and roller 18 to guard against scratching in making these loops. The feed sprockets 2 and 6 are mounted upon shafts carrying ratchets 19 and 20. The sprockets 2 and 6 carry pawls 21 and 22 so that they can slip in the direction of the pull on the film created by the rollers 17 and 18. When the door 7 is fully closed, the pin 14 will have passed the high ridge of part 10, thereby being free to go into its original position. As the springs 23 and 24 will press the brackets 15 and 16 backward, the brackets 15 and 16 will lift the bar 12. The door is locked, the loops are set and the film is in position to be operated. It is also possible to accelerate the movements of the loop making elements by bringing pressure of the hand upon the bar 12 at a suitable point 12^a.

Now when the machine is in operation and the loops should for any reason whatsoever become short, they then can be repaired individually without opening the door by simply pressing down on the respective brackets 15 or 16 at the points 15^a and 16^a, without interference of one another, or if both loops should need resetting, simultaneously, then by pressing down bar 12 at point 12^a both brackets 15 and 16 will lengthen the loops.

The arrangement is a very simple and effective one, and the original loops are made by the simple closing of the usual film guide door 7, and they are uniform in

size. For the door 7, I provide preferably a bridge handle 7^a as shown in the drawing, but other gripping means may be employed. The loop making member may also be mounted in other parts of the motion picture apparatus without departing from the principle of the invention described.

I claim the following as my invention:

1. In a motion picture machine, the combination with a film gate, a feed sprocket adjacent the top of the gate and a take-up sprocket adjacent the bottom of the gate, an upper loop forming member adapted to engage the portion of the film between the feed sprocket and the gate to form the upper loop, a lower loop forming member adapted to engage the portion of the loop between the gate and the take-up sprocket to form the lower loop and a manually actuated controlling device operatively connected to both of said loop forming members to move the same simultaneously to and from their loop forming positions.

2. In a motion picture machine, the combination with a film gate, a feed sprocket adjacent the top of the gate and a take up sprocket adjacent the bottom of the gate, an upper pivotally mounted loop forming member adapted to engage the portion of the film between the feed sprocket and gate to form the upper loop, a lower pivotally mounted loop forming member adapted to engage the portion of the loop and the take up sprocket to form the lower loop, and a manually actuated controlling device to simultaneously rock said pivotally mounted members.

3. In a motion picture machine, the combination with a film gate, a rotatable sprocket, a loop forming member pivotally mounted and adapted to engage the portion of the film between the sprocket and gate to form the loop, and a manually actuated controlling device pivotally connected to said loop forming member to move the same to and from its loop forming position.

4. In a motion picture machine, the combination with a casing, a rotatable sprocket supported thereby, a film gate, a loop forming member pivotally mounted relative to said gate and adapted to engage the portion of the film to form the loop when the gate is closed, a connection between said gate and said member and manually operated means for rocking said member.

Signed at the city of New York, N. Y., this 11th day of January, one thousand nine hundred and seventeen.

WILLIAM WENDERHOLD.

Witnesses:

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