July 2, 1929. W. W. HAMEL 1,719,606

ADVERTISING DEVICE

Filed Nov. 3, 1925 3 Sheets-Sheet 1

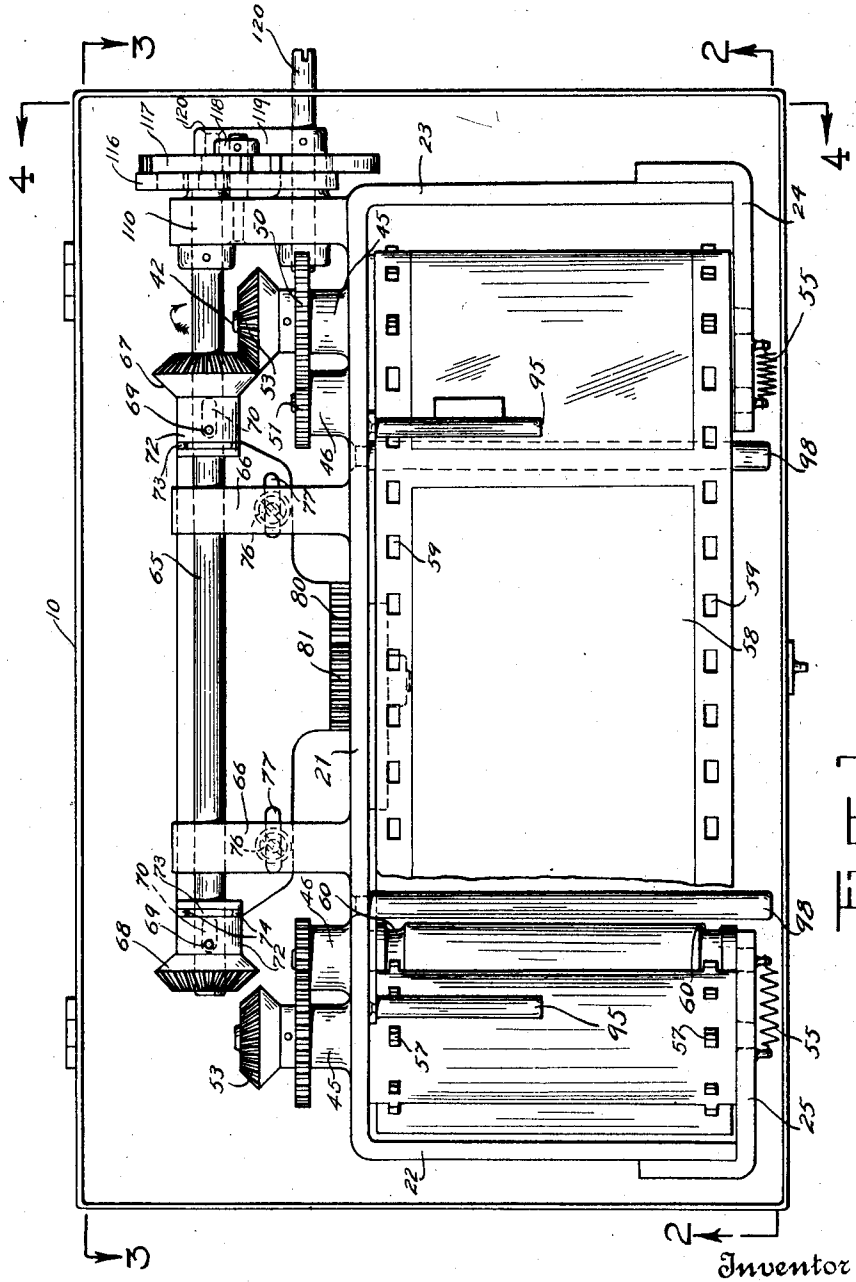


FIG. 1

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FIG. 3

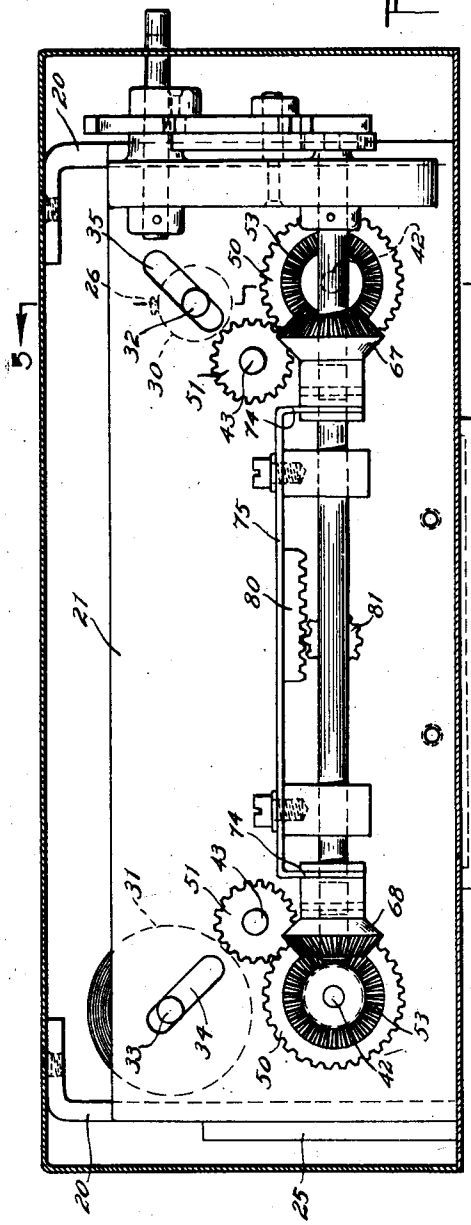
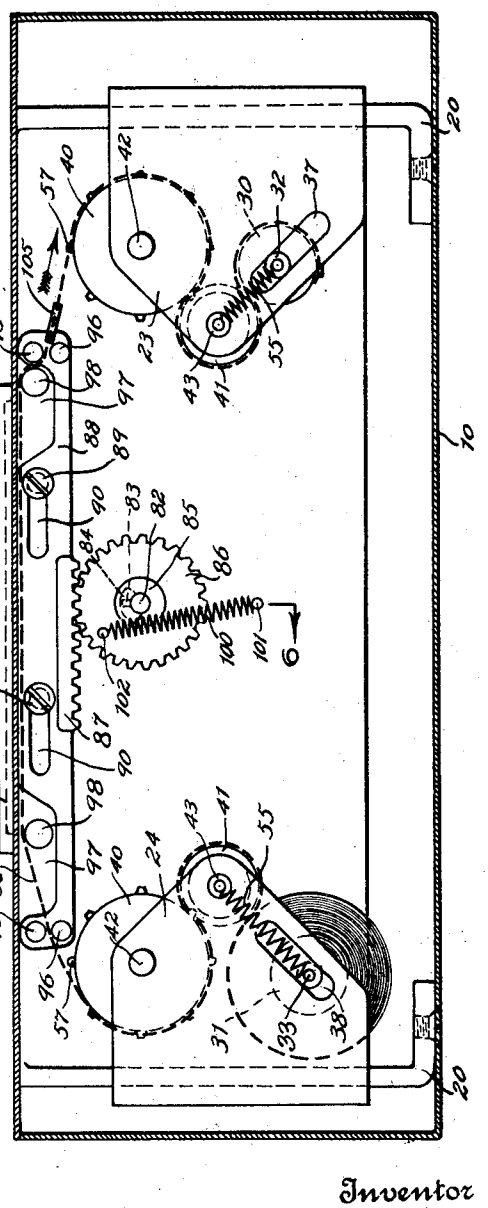


FIG. 2



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Fig. 6

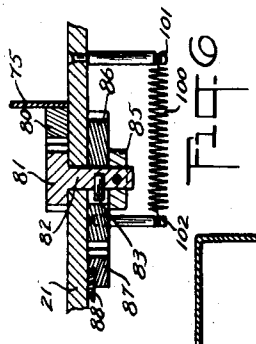


Fig. 5

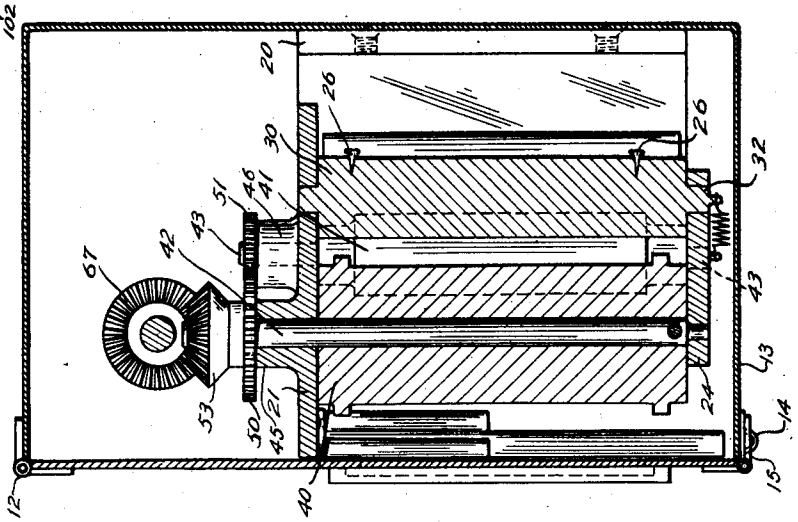
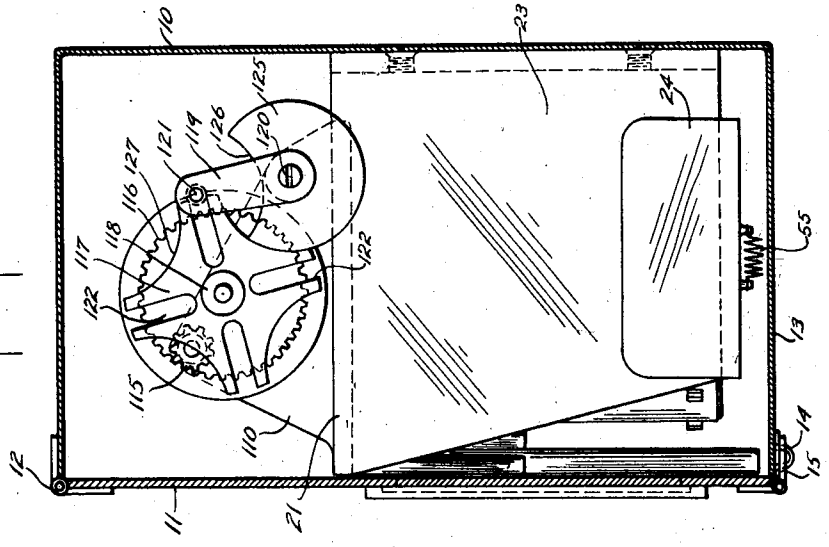


Fig. 4



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Patented July 2, 1929. 1,719,606

UNITED STATES PATENT OFFICE.

WILLIAM W. HAMEL, OF NEW YORK, N. Y., ASSIGNOR TO ADVERTISING SAMPLERS, INC., OF WILMINGTON, DELAWARE, A CORPORATION OF DELAWARE.

ADVERTISING DEVICE.

Application filed November 3, 1925. Serial No. 66,448.

This invention relates to advertising devices and particularly to devices adapted for use in passenger carrying vehicles and for general window advertising display.

In city and interurban railway cars, in steam railroad coaches, buses, taxicabs and like vehicles, the space available for the display of advertising matter is limited and, therefore, the number of stationary advertising cards that can be displayed is relatively small.

This invention has for its salient object to provide an advertising device so constructed and arranged that a plurality of advertisements can be displayed one at a time before the passengers of the vehicle or before the eyes of observers.

Another object of the invention is to provide a device of the character described so constructed and arranged that the same length of advertising strip will be displayed at each intermittent feed of the strip regardless of the amount of strip wound on the take-up reel.

Another object of the invention is to provide a device of the character described in which the feed will be automatically reversed when one of the reels is empty and the other one is full.

Another object of the invention is to provide a device of the character described that is simple in construction, comprises few parts and will be efficient in operation.

Further objects of the invention will appear from the following specification taken in connection with the drawings, which form a part of this application, and in which

Fig. 1 is a top plan view of the device, the cover of the cabinet being removed to expose the operative parts and the advertising strip being partly broken away;

Fig. 2 is a sectional elevation taken substantially on line 2—2 of Fig. 1;

Fig. 3 is a sectional elevation taken substantially on line 3—3 of Fig. 1;

Fig. 4 is a transverse sectional elevation taken substantially on line 4—4 of Fig. 1;

Fig. 5 is a transverse sectional elevation taken substantially on line 5—5 of Fig. 3; and

Fig. 6 is a detail sectional elevation taken substantially on line 6—6 of Fig. 2.

The invention briefly described consists of an advertising device comprising a pair of reels to which the ends of a strip are secured and feed rolls associated with each reel and adapted to positively engage and feed the strip of material. One of the feed rolls of each set is provided with lugs adapted to register with perforations in the strip so as to positively engage and feed the strip. Each of the reels is frictionally driven by one of the feed rolls. Means is provided for automatically reversing the feed when one of the reels is full and the other is empty. Operative driving connections are so arranged that the strip will be fed intermittently in such a manner as to expose to view at each feed one advertisement or other display matter. Further details of the invention will appear from the following description.

In the embodiment of the invention illustrated in the drawings, the operating mechanism is housed in a cabinet substantially rectangular in shape and having a body portion 10 and a cover 11 hinged thereto at 12. The bottom 13 of the body portion has a loop 14 thereon and the cover has a hinged latch member 15 adapted to engage over the loop 14.

The operative mechanism is supported in the body portion 10 of the cabinet. A pair of frame members or brackets 20 are secured to the rear wall of the body portion 10 as shown in Fig. 2, these brackets being connected by a U-shaped supporting frame comprising members 21, 22 and 23. The frame members 22 and 23 have secured thereto angular frame members 24 and 25 which, as hereinafter described, form bearings for the ends of the feed rolls and reel shafts.

Reel mounting and feed rolls.

The strip or film is wound on a pair of reels 30, 31 having shafts 32, 33, the ends of the strip being secured to the reels in any suitable manner as by pins 26. The reel shafts 32, 33 are slidably mounted in slots 34, 35 formed in the member 21 of the U-shaped frame and the other ends of these shafts are supported in slot 37, 38 formed in the frame members 23 and 24.

Each reel has associated therewith feed rolls for feeding the strip thereon and each set of feed rolls comprises a roll 40 and a roll 41. These rolls are mounted on shafts 42 and 43 journaled at one end in the frame

members 24 or 25 and at the opposite end in bosses 45, 46 formed on the frame member 21. The shafts 42 and 43 have secured thereon gears 50, 51 which mesh with each other and the shaft 42 of each set of rolls is extended and has secured thereon a bevel gear 53.

The reels and strip wound thereon are held in coactive engagement with the rolls 41 by means of springs 55 secured at one end to the shaft 43 and at the opposite end to the shafts 32 or 33 of the reels; thus, as the feed rolls 40 and 41 associated with one reel are driven, the reel will be frictionally driven by its peripheral contact with the feed roll 41, the reel shaft moving along its bearing slot to accommodate the roll 41 as the amount of strip increases or decreases on the reel.

Each of the rolls 40 has formed on its periphery adjacent its two ends a series of lugs 57 and the strip 58 of film or other material has formed adjacent each longitudinal edge a series of perforations 59 adapted to register with the lugs 57.

The roll 41 as shown in Fig. 1 is provided at its ends with annular grooves 60 to receive the lugs 57.

Driving connections.

Means is provided whereby either set of feed rolls and the reel associated therewith can be driven, it being understood that when one of the reels is being driven to wind up the strip, the other reel rotates freely to release the strip wound thereon.

As above described, the feed roll 40 of each set of feed rolls has secured to its shaft 42 a bevel gear 53. A shaft 65 is rotatably mounted in bearing posts 66 carried by the frame member 21 and has slidably mounted thereon oppositely facing bevel gears 67 and 68. The gear 67 is adapted to mesh with bevel gear 53 of one of the feed rolls 40 and the bevel gear 68 is adapted to mesh with the bevel gear 53 of the other feed roll 40 when the shaft is in one or the other of its operative positions. Each of the bevel gears has a pin 69 extending through the hub thereof and through a slot 70 in the shaft 65 whereby the gear is slidably mounted on the shaft but is mounted to rotate therewith. The hub 72 of each gear has an annular groove 73 formed therein adapted to receive the bifurcated end 74 of a U-shaped frame 75. The frame 75 is slidably mounted by a pin and slot connection 76, 77 on the posts 66 as shown in Figs. 1 and 3.

The frame 75 has secured thereto a rack 80 which meshes with a spur gear 81 mounted on a spindle 82 which in turn is mounted in the frame member 21.

The spindle 82 has secured thereto a laterally extending pin 83 which is disposed in a slot 84 formed in a spur gear 86. A collar or washer 85 is secured to the spindle 82 and retains the spur gear thereon. The gear 86 meshes with a rack 87 formed on a frame 88 slidably mounted by a pin and slot connection 89, 90 on frame 21. The frame 88 has secured thereon at each end thereof a pair of laterally extending, spaced apart pins or rods 95, 96. The strip 58 is adapted to pass between these two sets of pins or rods. The frame 88 is recessed as shown at 97 and guide pins 98 are secured to the frame 21 and are positioned in the recesses 97 for the purpose of guiding the strip to a position in back of a window or side opening 99 in the cover 11.

A spring 100 is fixedly secured at one end 101 and has its opposite end 102 secured to the spur gear 86. It will be noted that the end 101 of the spring is positioned beneath the axis of the gear or beneath the spindle 82.

The strip 58 has secured adjacent each end thereof a lug or series of lugs 105, these lugs being of such dimensions that they will not pass between the pins 95, 96; thus, when the strip is substantially unwound from one of the reels, the lugs 105 at that end of the strip will engage the pins 95, 96 and slide the frame 88 longitudinally. As the frame is moved longitudinally, the rack 87 carried thereby will rotate the spur gear 86 and when the pin 102 passes over dead center of the gear 86, the spring 100 will assist in rotating the gear and the spindle 82. As the spindle 82 is rotated, the gear 81 will also be rotated which in turn will actuate the rack 80 and frame 75 to cause one of the gears 67, 68 to go out of mesh with its coacting gear 53 and cause the other gear to go into mesh with its coacting gear 53. This operation will cause a reversal of the drive and the strip will then be fed from the full reel to the empty reel.

Intermittent feed.

The driving connections for the shaft 65 are so constructed and arranged that this shaft will be driven step by step or intermittently in such a manner that at each actuation thereof, a length of strip corresponding to the length of the opening or window 99 will be fed.

The shaft 65 is extended through bearings in a post 110 carried by the frame 21 and has secured to its outer end a pinion 115 which meshes with an internal gear 116 carried by a Geneva wheel 117 mounted on a spindle 118. The Geneva wheel is rotated by means of a crank 119 carried by a shaft 120 and having a pin 121 adapted to engage in the slots 122 of the Geneva wheel. The shaft 120 also carries a cam 125 having a recessed portion 126. The cam and recessed portion

of the Geneva wheel actuating mechanism operate in the usual manner, the cam engaging arcuate portions 127 of the Geneva wheel to hold the wheel against rotation except when the pin 121 is actuating the wheel in which case the recessed portion 126 permits rotation of the wheel.

The shaft 120 extends through the wall of the cabinet as shown in Fig. 1 and can be actuated in any desired manner; for instance, when this device is mounted on a vehicle, the shaft 120 can be connected to any rotating part of the vehicle.

Operation.

With the parts positioned as shown in the drawings, the reel 30 is being rotated in a clockwise direction to wind up the strip thereon, the strip being fed in the direction of the arrow shown in Fig. 2, the direction of movement of the strip having just been reversed. When the reel 30 is full and the reel 31 is empty, the lugs 105 at the end of the strip secured to the reel 31 will engage the pins 95 and 96 at the left hand end of the frame 88 (viewing Fig. 2) causing the frame 8 to slide longitudinally. As the frame is moved longitudinally, the rack 87 will rotate the gear 86 and as soon as the end 102 passes over dead center, the spring 100 will assist in rotating the gear, this spring also serving to hold the gear at its extreme of movement.

As the gear 86 is rotated, the spindle 82 will be rotated, thus rotating the gear 81 and causing the rack 80 and frame 75 to move longitudinally in a direction to move the gear 67 out of mesh with its coacting gear 53 and to cause the gear 68 to move into mesh with its gear 53; thus, the direction of drive will be reversed.

By means of the Geneva movement and by reason of the gearing illustrated, the strip will be fed step by step in such lengths that on each feed of the strip, a length of strip corresponding to the opening 99 will be exposed to view.

It should be noted that since the film is fed by direct contact of the lugs 57 with the perforations 59 and since the reels 30 and 31 are driven frictionally in the manner described, the amount of film wound on a reel will not change the length of film fed.

Although one specific embodiment of the invention has been particularly shown and described, it will be understood that the invention is capable of modification and that changes in the construction and in the arrangement of the various cooperating parts may be made without departing from the spirit or scope of the invention, as expressed in the following claims.

What I claim is:

1. An advertising device comprising a pair of reels, a strip attached at its ends to said reels, a set of coacting feed rolls located adjacent each reel, each set of rolls comprising a pair of rolls, the strip being disposed between the rolls of each pair, means for retaining each reel and the strip wound thereon in frictional engagement with one of the feed rolls associated therewith and driving connections common to both sets and adapted to actuate the feed rolls associated with either reel.

2. In combination, a pair of reels, a strip secured at its ends to said reels and having a series of longitudinally disposed perforations therein, a set of feed rolls associated with each reel, one of the feed rolls of each set having peripheral lugs adapted to register with the perforations of the strip, and resilient means connected to each reel for holding the reel and strip wound thereon in peripheral engagement with one of said feed rolls.

3. In combination, a pair of reels, a strip secured at its ends to said reels, a set of feed rolls associated with each reel, each set of rolls comprising a pair of rolls, the strip being disposed between the rolls of each pair, resilient means connected to each reel for holding the reel and strip wound thereon in peripheral engagement with one of said feed rolls, and means for rotating either set of feed rolls and the reel associated therewith, step by step.

4. In combination, a pair of reels, a strip secured at its ends to said reels, a set of feed rolls associated with each reel, each set of rolls comprising a pair of rolls, the strip being disposed between the rolls of each pair, resilient means connected to each reel for holding the reel and strip wound thereon in peripheral engagement with one of said feed rolls, means for rotating either set of feed rolls and the reel associated therewith, step by step, and means controlled by the strip for automatically reversing the drive when one reel is full and the other reel is empty.

5. In combination, a pair of reels, a strip secured at its ends to said reels, a set of feed rolls associated with each reel, each set of rolls comprising a pair of rolls, the strip being disposed between the rolls of each pair, operative driving connections between the feed rolls of each set, a gear connected to drive one roll of each set, a driven shaft, a pair of driving gears slidably mounted on said shaft and rotatable thereby, said gears being selectively engageable with the gears of said sets of feed rolls and means for automatically shifting said drive gears on said shaft when one of the strips has been unwound from one of said reels.

6. In combination, a pair of reels, a strip secured at its ends to said reels, a set of feed rolls associated with each reel, each set of rolls comprising a pair of rolls, the strip

being disposed between the rolls of each pair, operative driving connections between the feed rolls of each set, a gear connected to drive one roll of each set, means for holding each reel in peripheral frictional driving engagement with one of the feed rolls associated therewith, a driven shaft, a pair of gears slidably mounted on said shaft and rotatable thereby, said gears being selectively engageable with the drive gears of said sets of feed rolls and means for automatically shifting said shaft gears on said shaft when one of the strips has been unwound from one of said reels.

7. In combination, a pair of reels, a strip secured at its ends to said reels, a sliding guide frame intermediate said reels for guiding said strip, means for feeding said strip and for rotating either of said reels, a second slidable frame connected to said guide frame, a pair of gears engaged by said frame and slidable therewith, means for rotating said gears, a set of feed rolls associated with each reel, one roll of each set having a gear adapted to mesh with one of said pair of gears, lugs on said strip adjacent the ends thereof, and means on said guide frame engageable by the lugs on said strip whereby said guide frame will be shifted and cause one of said pair of gears to be thrown into operation and the other of said pair of gears out of operation.

8. In combination, a pair of reels, a strip secured at its ends to said reels, a slidable guide frame intermediate said reels for guiding said strip, means for feeding said strip and for rotating either of said reels, a second slidable frame, connected to said guide frame, a pair of gears engaged by said frame and slidable therewith, means for rotating said gears, a set of feed rolls associated with each reel, one roll of each set having a gear adapted to mesh with one of said pair of gears, lugs on said strip adjacent the ends thereof, means on said guide frame engageable by the lugs on said strip whereby said guide frame will be shifted and cause one of said pair of gears to be thrown into operation and the other of said pair of gears out of operation, and resilient means for assisting in the sliding of said slidable frame.

9. In combination, a pair of reels, a strip secured at its ends to said reels, means for guiding said strip intermediate said reels, operative driving connections, comprising a drive shaft, a pair of gears slidable thereon and adapted to drive either of said reels, a slidable strip guiding frame having two pairs of pins adapted to receive between them the strip, means on said strip adjacent the ends thereof for engaging said pins, and means, comprising a movable member engaging both of said gears and controlled by said frame for shifting one of said slidable gears into operative position to drive one of said reels.

10. In combination, a pair of reels, a strip secured at its ends to said reels, means for guiding said strip intermediate said reels, operative driving connections, comprising a drive shaft, a pair of gears slidable thereon and adapted to drive either of said reels, a slidable strip guiding frame having two pairs of pins adapted to receive between them the strip, means on said strip adjacent the ends thereof for engaging said pins, and means, comprising a movable member engaging both of said gears and controlled by said frame for shifting one of said slidable gears into operative position to drive one of said reels, and resilient means for assisting in sliding said frame.

11. In combination, a pair of reels, a strip secured at its ends to said reels, means for guiding said strip intermediate said reels, operative driving connections adapted to drive either of said reels, said connections including a shaft and a pair of gears slidably mounted thereon for rotation therewith, a slidable strip guiding frame having portions engaging said gears and adapted to silde the gears on said shaft, spaced members carried by said frame and adapted to be positioned on opposite sides of the strip, and means on the strip engageable with said members whereby the frame will be shifted and will slide the gears on the shaft.

12. In combination, a pair of reels, a strip secured at its ends to said reels, means for guiding said strip intermediate said reels, operative driving connections adapted to drive either of said reels, said connections including a shaft and a pair of gears slidably mounted thereon for rotation therewith, a slidable strip guiding frame having portions engaging said gears and adapted to slide the gears on said shaft, spaced members carried by said frame and adapted to be positioned on opposite sides of the strip, means on the strip engageable with said members whereby the frame will be shifted and will slide the gears on the shaft, and resilient means operable after the frame has been started in motion for assisting in sliding the frame.

13. In combination, a pair of reels, a strip secured at its ends to said reels and having a series of longitudinally disposed perforations therein, a set of feed rolls associated with each reel, bearing slots in which each reel is mounted, one of the feed rolls of each set having peripheral lugs adapted to register with perforations of the strip, and means resiliently connecting one feed roll in each set to its associated reel adapted to hold said reel and strip wound thereon in peripheral engagement with said connected feed roll.

14. In combination, a pair of reels, slotted

bearings therefor, a strip secured at its ends to said reels, a pair of coacting feed rolls associated with each reel, one roll of each pair having strip engaging and feeding members thereon, and resilient means connected to each reel for bodily moving said reel into coacting driving relation with its associated feed roll and the strip wound thereon and retaining the strip and reel in peripheral engagement with its associated roll.

In witness whereof, I have hereunto set my hand this 2nd day of November, 1925.

WILLIAM W. HAMEL.