

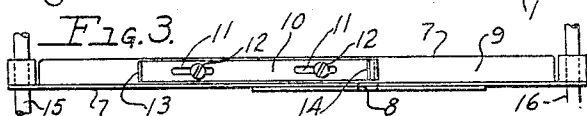
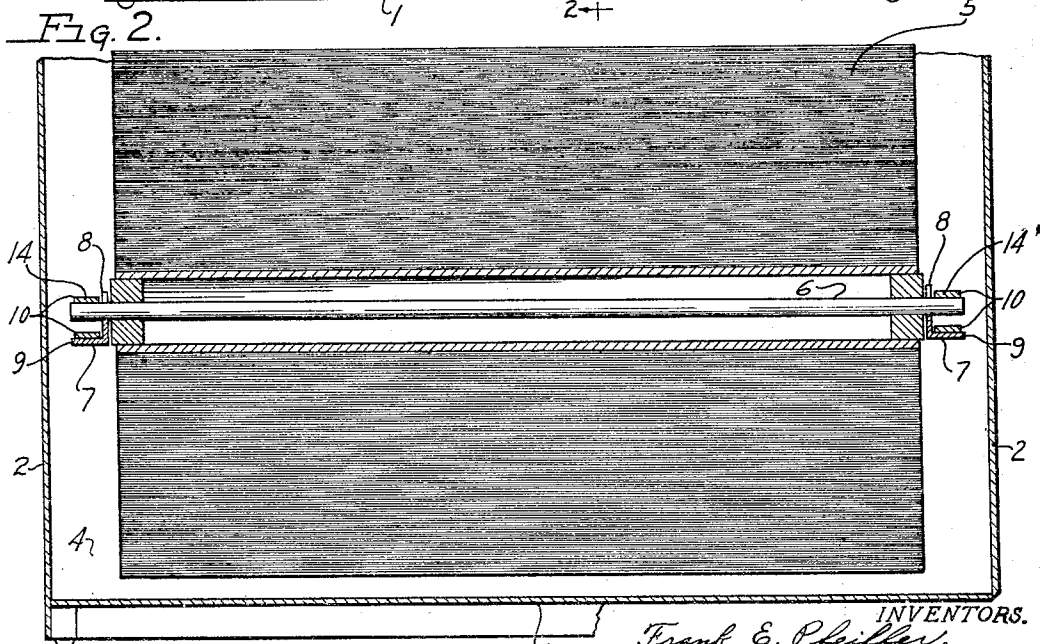
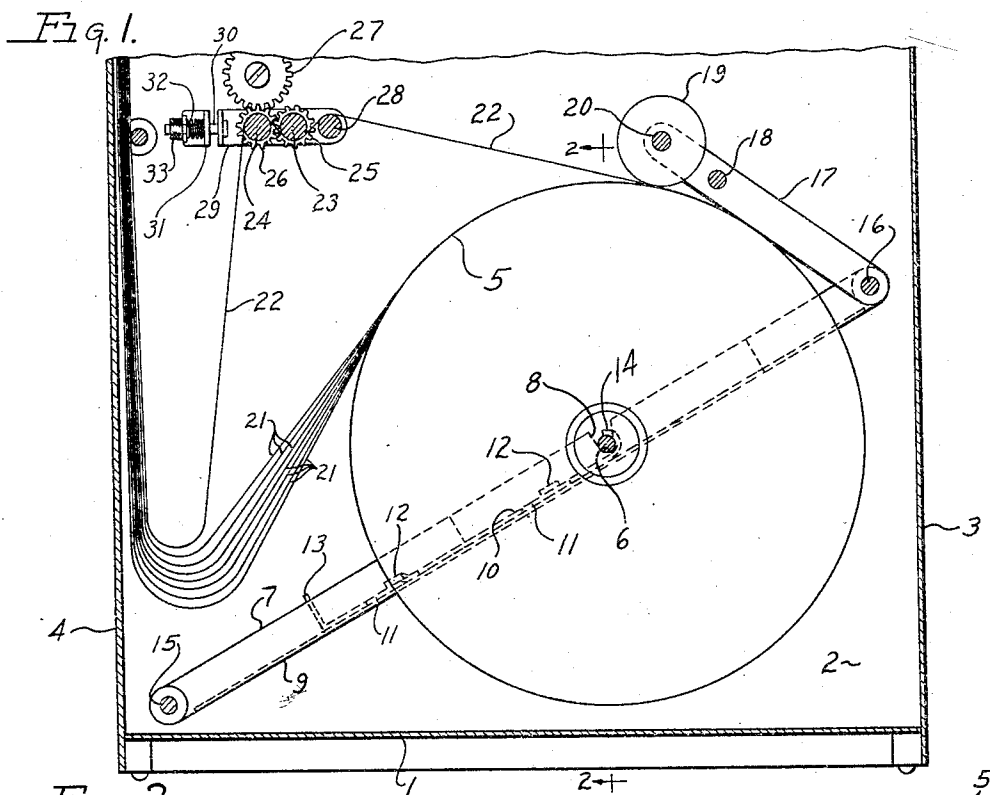
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WEB ROLL SUPPORTING DEVICE

Original Filed Feb. 19, 1930



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UNITED STATES PATENT OFFICE

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WEB ROLL SUPPORTING DEVICE

Original application filed February 19, 1930, Serial No. 429,584. Divided and this application filed
February 24, 1931. Serial No. 517,383.

This invention relates to a paper roll supporting device, and has for its object to provide, in connection with an autographic register or other duplicating machine, means for supporting a roll of paper so that the sheets of paper may be fed therefrom in a regular, orderly and systematic manner.

It is the object of this invention to provide an inclined support for the axle carrying a roll of paper and a support on this incline, and to provide means on this incline for preventing the too free rotation of the roll and to regulate the feeding of the paper from the roll.

It is also an object of this invention to provide, in connection with a roll and a support therefor, in the manner here described, means for positively engaging one of the plurality of sheets supported by the roll for feeding all of the sheets at the same time, together with means for regulating the speed of rotation of the roll.

These and other advantages will appear from the following description taken in connection with the drawing, in which is shown a preferred embodiment of this invention.

This application is a division of application Ser. No. 429,584, filed February 19, 1930.

Referring to the drawing:

Figure 1 is a section through a casing showing the roll supporting device in elevation.

Figure 2 is a section on the line 2—2 of Figure 1.

Figure 3 is a top plan view of one of the rails showing the sliding hook plate.

The web supporting device is as a whole inclosed in a casing having a bottom 1, side walls 2, a front wall 3 and a rear wall 4. In the casing thus formed there is a paper supply roll 5, which has extending therethrough an axle 6 for supporting the roll in a rotating condition.

For supporting the axle and the paper roll thereon there is a pair of rails 7, each having a notch 8 nearer the upper end than the lower end. Each rail is in the form of an angle iron, and in addition to the vertical part has a lateral extension or portion 9. On this lateral extension is a slide plate 10,

which has one or more slots 11 therein for receiving studs 12 in the lateral portion of the rail 7. On the lower end of each sliding plate is a hand piece 13 to be gripped for moving the sliding plate along the lateral portion of the rail. At the end of the sliding plate, opposite the hand piece, is a hook 14 adapted to fit over the end of the axle and hold it in the notch or slot 8. The hook is shown in engagement with the axle in Figure 1, and tends to hold the axle in the notch 8.

These two rails are held together by means of a lower cross rod 15 and an upper cross rod 16. These two rods and the rails form a rectangular frame for supporting the roll and its axle. The cross rods 15 and 16 are supported in the walls of the casing.

Whenever it is desired to place the roll upon the rails, the roll is placed between the two rails with the ends of the axle resting upon the rails. The axle is caused to move up the rail and to drop into the notches 8. When the axle has been properly seated the hooks are caused to fit over the ends of the axle so it is held in position. In order to prevent a too free rotation of the roll of paper, there is pivoted to the cross rod 16 a pair of arms 17, which are connected by a cross rod 18. Between the free ends of the arms 17 is a roller 19 supported by a roller shaft 20. The roller 19 bears against the periphery of the paper roll so that a too free rotation is prevented and the strips of paper are held together until they leave the rollers 19.

There is a plurality of superimposed strips of paper adapted to be fed all at the same time and at the same rate of speed. These strips of paper, with the exception of one strip, are indicated by the numeral 21. In the present instance there are seven of these strips indicated by the numeral 21. Another strip, indicated by the numeral 22, is separated from the strips 21 as they leave the roller 19. This strip 22 passes over a guide roller 23 beneath a feed roller 23, and over a second feed roller 24. The feed roller 23 has a gear 25 thereon meshing with a gear 26 on the feed roller 24 so that these two rollers rotate in unison and tend to positively feed the sheet of paper passing between them. These

rollers are positively driven by means of a driving gear 27, suitably connected to some source of power and engaging with the gear 26. The roller 28 is merely a guide roller to hold the paper in contact with the roller 23 so that the sheets of paper will be positively fed.

These rollers are supported by the side walls of the casing and by plates 29, one for each wall. One end of each plate is supported in a side wall by means of the spindle part on the end of the roller 28. The end of the plate opposite the roller 28 has attached thereto a pin 30, which extends through a bracket 31 attached to the side wall. On this pin adjacent the bracket 31 is a spring 32, held thereon and tensioned by means of a nut 33. On the ends of the roller 23 there are cam means which cooperate with slots in the plate 29 for moving the rollers 23 and 24 apart so that the sheet of paper may be fed between them.

The source of power for operating an autographic register, or other duplicating machine with which this apparatus is used, causes the rollers 23 and 24 to rotate, and since the sheet of paper 22 passes between these rollers a rotation of the rollers will cause the roll 5 to rotate to feed off the sheets of paper. The speed at which the feeding of the paper takes place may be determined by the sizes of the rollers 23 and 24, or by the relative dimensions of the gear connections between the autographic register operating means and the rollers 23 and 24.

We desire to comprehend within our invention such modifications as may be embraced within our claims and the scope of our invention.

Having thus fully described our invention, what we claim as new and desire to secure by Letters Patent, is:

1. In combination, a pair of spaced roll axle supports having axle notches therein, hooks slidable beneath the axle and engaging over the axle for locking said axle in said notches, a pivoted weight mounted on said axle supports, and means for positioning said weight at a predetermined position with respect to said roll.

2. In combination, a pair of spaced roll axle supports having axle notches therein, means consisting of sliding hooks located beneath the axle for locking said axle in said notches, a pivoted weight mounted on said axle supports, and means for positioning said weight with respect to the axle of the roll and its support so that the weight will not only resist the unrolling of the roll but serve to maintain the axle in its support.

3. In combination, a pair of rails, each having a notch therein, a roll having an axle adapted to rest in said notches, a sliding hook on each rail adapted to pass under, around one side and the top of the axle to cooperate

with the notches in holding the axle, a pair of arms, each pivotally supported at one end by the rails, and a brake roller at the other ends of the arms and adapted to rest upon the roll.

4. In combination, a frame composed of side rails and end rods, each side rail having a notch therein, a roll having an axle adapted to rest in said notches, a sliding hook on each rail beneath the axle to engage the axle in the notch on its bottom, one side and top, and a swinging brake member on one end rod adapted to rest upon said roll.

5. In combination, a frame composed of side rails and end rods, said side rails being formed of angle irons having a lateral portion and a vertical portion, each vertical portion having a notch therein, a sliding hook member on each lateral portion adjacent the notch in the vertical portion, a roll having an axle adapted to rest in the notches and be engaged by the hook members, a pair of swinging arms, each attached at one end to an end rod, and a brake roller on the other ends of said arms and adapted to rest upon the roll.

6. In a paper feeding machine, means to support a roll composed of a plurality of sheets, brake means restraining the rotation of said roll remotely pivoted therefrom, and tension means for drawing one of the sheets, said brake means engaging said roll at the point of departure of said sheet.

7. In a paper feeding machine, means to support a roll composed of a plurality of sheets, brake means restraining the rotation of said roll remotely pivoted therefrom, and tension means for drawing one of the sheets, said brake means engaging said roll at the point of departure of said sheets, the remainder of said sheets being allowed to loosely unroll.

In testimony whereof, we affix our signatures.

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