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ROLL PAPER HOLDER

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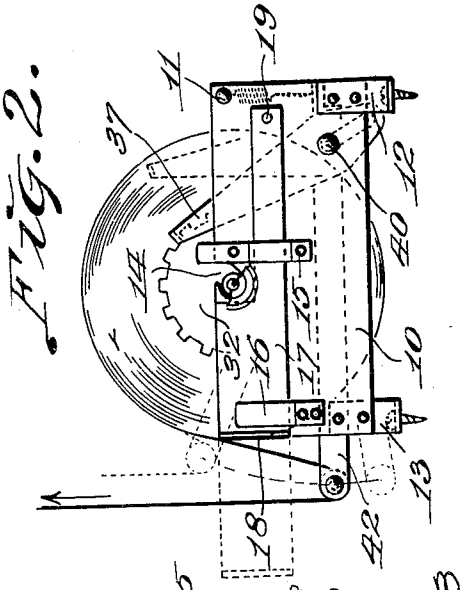


FIG. 2.

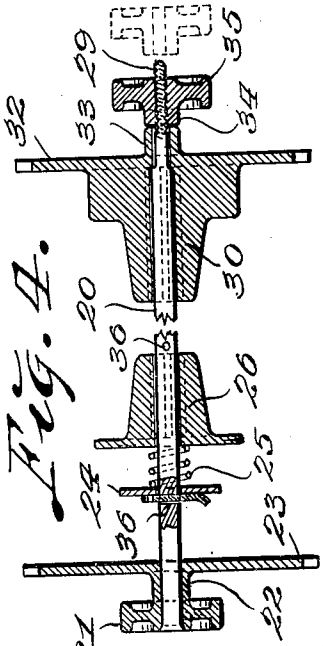


FIG. 4.

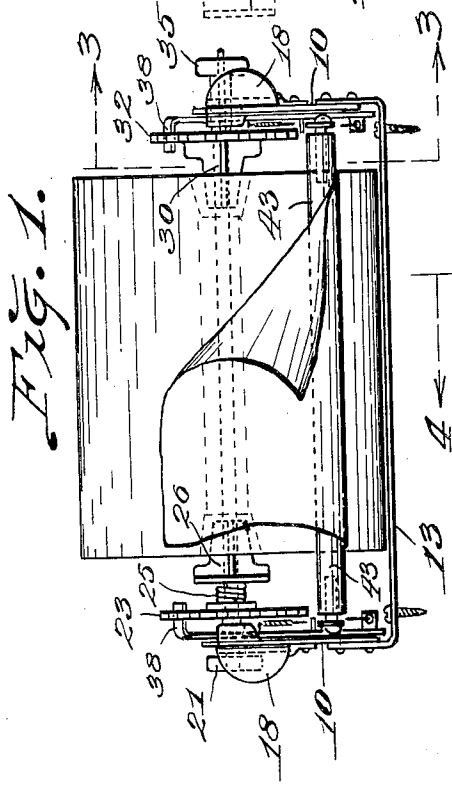


FIG. 1.

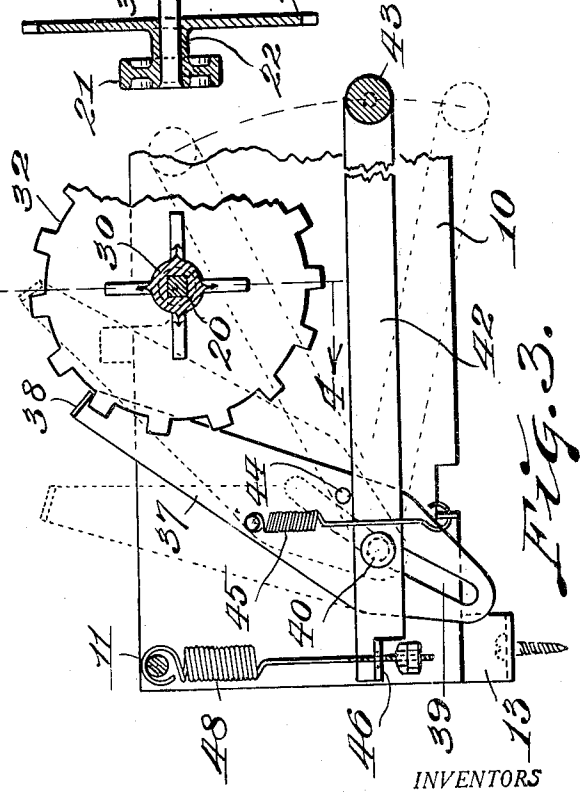


FIG. 3.

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ROLL PAPER HOLDER

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Application March 25, 1930. Serial No. 438,736

5 Claims. (Cl. 242—55.5)

Our invention relates to a roll paper holder and has for its principal object the provision of a relatively simple and practical structure for holding rolls of wrapping paper in positions beneath the paper cutting means, for instance, beneath a show case, counter or the like and where the paper cutter is located on the upper rear portion of the show case or counter.

The holder herein set forth is an improvement on the roll paper holder forming the subject matter of a co-pending application for U. S. Letters Patent filed by James W. McClintock January 16th, 1929, Serial No. 332,990.

Further objects of our invention are, to generally improve upon and simplify the construction of the paper cutter disclosed in the aforesaid co-pending patent application as well as other existing forms of paper cutters, further, to provide a roll paper holder that is especially designed for use in connection with the roll paper feeder and cutter forming the subject matter of our co-pending application for patent filed February 27, 1930, Serial No. 431,852 and further, to provide a roll paper holder with simple and efficient means for controlling the rotary motion of the roll of paper and particularly the inertia developed as a result of pull upon the web of the paper so as to unwind the same from the roll.

A further object of our invention is, to provide a spindle that may be easily and quickly applied to or removed from a roll of paper and which, when properly applied thereto, will hold the roll firmly and conveniently within a frame and which spindle includes adjustable parts whereby rolls of paper of different lengths may be engaged and supported in the frame of the holder.

A further object of our invention is, to provide simple and efficient means for effectively locking the roll carrying spindle against rotation in both directions until the end of the web of paper that passes through the feeder and cutter is drawn or pulled outwardly for the purpose of unwinding the desired portion of paper from the roll.

With the foregoing and other objects in view, our invention consists in certain novel features of construction and arrangement of parts that will hereinafter be more fully described and claimed and illustrated in the accompanying drawing, in which:

Fig. 1 is a front elevational view of a roll paper holder constructed in accordance with our invention.

Fig. 2 is an end elevational view of the roll paper holder.

Fig. 3 is an enlarged transverse section taken approximately on the line 3—3 of Fig. 1.

Fig. 4 is a sectional view of the mandrel or spindle that serves as a support for the roll of paper when the same is positioned in the holder.

Referring by numerals to the accompanying drawing which illustrates a practical embodiment of our invention, 10, 10 designate end plates, preferably of metal and connecting the rear upper corners of these end plates is a rod 11. Secured to and projecting downwardly from the rear lower corners of the plates are metal angles 12 that serve as short legs or feet for supporting the reaer portion of the frame and connecting the lower front corners of the end plates is a metal strap 13 that serves as a support for the front portion of the frame.

Formed in the upper central portions of plates 10 are undercut notches or recesses 14 that serve as bearings for the ends of the mandrel or spindle that carries the roll of paper and secured on the outer faces of the end plates 10 immediately to the rear of these bearings 14, are vertically disposed straps 15, the upper ends of which project above the upper edges of the plates 10 and provide stops for limiting the rearward rolling movement of the mandrel when the same carrying a roll of paper is rolled onto the frame so as to drop into the bearings 14.

Arranged for horizontal sliding movement through portions of the straps 15 that are spaced apart from the end plates 10 and through loops or keepers 16 that are secured on the outer faces of the end plates 10, at the upper front corners thereof, are horizontally disposed bars 17, the forward ends of which are bent outwardly in front of the loops 16 to provide handles 18 by means of which said bars may be drawn outwardly, as shown by dotted lines in Fig. 2, and thereby serve as a support for the ends of a paper roll carrying spindle when the same is loaded onto the frame.

The upper edges of the front portions of the bars 17 occupy the same horizontal plane with the upper edges of the plates 10, and projecting outwardly from the rear portions of said bars 17 are pins 19 that function as stops that engage the loops 16 and thereby limit the outward sliding movement of said bars.

The spindle that carries the roll of paper comprises a metal rod 20, preferably square or non-circular in cross section, and secured to one end thereof is a nob 21 provided with a short cylindrical hub 22 and formed integral with or fixed to the inner end of this hub is a ratchet wheel 23.

Loosely arranged on the square portion of the spindle and normally bearing against the inner face of ratchet wheel 23 is a washer 24 and bearing against the latter is one end of an expansive spring 25.

Arranged for sliding movement on the spindle 20 and bearing against the inner end of spring 25 is a sleeve 26 that is provided on its outer surface with a series of longitudinally disposed webs, the outer portions of which are inclined and sharpened in order to engage the wooden plug that is positioned in the end of a roll of wrapping paper as produced and delivered by the factory.

The opposite end portion of spindle 20 is reduced in diameter and threaded as designated by 29 and arranged on the square end portion of spindle 20, adjacent to this reduced threaded portion, is a sleeve 30 on which is formed a series of webs having inclined sharpened edges that are adapted to engage in one of the wooden plugs that are seated in the end of the roll of wrapping paper.

Formed integral with the outer portion of sleeve 30 is a ratchet wheel 32 and projecting outwardly from this ratchet wheel and surrounding the inner portion of the reduced threaded member 29 is a tubular member 33 that functions as a trunnion for one end of the spindle.

Threaded on the outer portion of member 29 is a nut 34 and formed integral with the outer end thereof is a nob 35.

When the spindle constructed as just described is positioned in the frame, the parts 22 and 33 occupy the undercut bearings 14 in the upper edges of the end plates 10 and thus the roll of paper that is carried by the spindle is supported for rotary movement between the ends of the frame.

In order that the spindle may accommodate rolls of paper of different lengths, the spindle member 20 is provided with a plurality of apertures 36 that are arranged at different distances from the ratchet wheel 23 and to accommodate the shorter lengths of rolls, washer 24, spring 25 and webs 26 are move inwardly upon the spindle and a cotter pin or the like is inserted through one of the apertures 36, behind the washer 24 (see Fig. 4).

Arranged against the inner faces of the end plates 10 to the rear of the bearings for the spindle are detent plates 37 provided with inwardly projecting fingers 38 on their upper ends and which fingers engage the teeth of the ratchet wheels 23 and 32.

The lower portions of these detent plates are provided with longitudinally disposed slots 39 for the accommodation of studs 40 that project inwardly from plates 10.

Fulcrumed on the studs 40 are the rear portions of levers 42 and journaled in the forward ends of these levers immediately in front of the frame are the ends of a roller 43, beneath which the web of paper passes as it unwinds from the roll and extends upwardly to the paper feeder and cutter that is positioned above the roll paper holder.

Projecting inwardly from the detents 37 and located just above the levers 42, when the same are in their normal positions, are pins 44 that are engaged by the upper edges of the levers when the forward portions thereof are drawn upwardly as the web of paper is drawn from the cutter.

Secured to the end plates 10 at points below and in front of their fulcrums 40, are the lower ends of retractile springs 45, the upper ends of which are secured to the upper portions of detents 37.

The rear ends of levers 42 terminate in loops 46 and passing therethrough are the lower ends of retractile springs 48, the upper ends thereof being secured to rod 11 that connects the upper rear corners of plates 10.

Under normal conditions the parts of our improved roll paper holder occupy the positions as illustrated in Figs. 1, 2 and 3 and when the end of the web of paper is engaged and drawn on through the feeder and cutter and which latter is located above the holder, the pull exerted on the web of paper will draw roller 43 upwardly, thereby swinging levers 42 on their fulcrums 40 and as a result of the engagement of the levers 42 with the pins 44, the detents 37 will be swung on their fulcrums so as to move the fingers 38 on the upper ends of said detents outwardly away from the ratchet wheels 23 and 32 and thereby permitting the spindle on which the roll of paper is carried, to rotate freely as a result of the pull on the web of paper.

As the forward ends of levers 42 approach the upper ends of their movement, the loops 46 on the rear ends of said levers, will engage the lower ends of the loops 47 and the further movement of the levers will be yieldingly resisted by the retractile springs 48.

After the pull on the web of the paper through the feeder and cutter ceases, the levers 42 will return to their normal positions and as said levers move away from the pins 44, the upper ends of the detents will be drawn into engagement with the teeth of the ratchet wheels 23 and 32 and the inertia of the roll of paper, which tends to cause the same to continue to rotate and which is developed by the pulling strains imparted to the web of paper, will draw the engaged detents 37 upwardly for a short distance, which movement is permitted by the provision of the slots 39. This upward movement of the detents will be yieldingly resisted by the retractile springs 45.

After the inertia of the roll is thus counteracted, springs 45 will return the detents 37 to their normal positions and the return of the roller 43 to its normal position will take up any slack that may occur in the web of paper between the roll and the combined feeder and cutter.

In order to facilitate loading of the roll paper into position in the frame, the bars 17 may be drawn forwardly, as illustrated by dotted lines in Fig. 2 and the bearing portions 22 and 33 of the spindle are positioned on the upper edges of said bars and said spindle, carrying the roll of paper, is now rolled rearwardly upon the tracks formed by the bars 17 until the bearing portions of the spindle pass into the undercut bearings 14.

This arrangement permits the holder to be conveniently loaded without withdrawing the holder from its position beneath a counter or show case.

Thus it will be seen that we have provided a roll paper holder that is relatively simple in construction, inexpensive of manufacture and which may be advantageously employed for holding rolls of wrapping paper in position beneath counters and show cases and in relation to combined feeders and cutters that are located within easy reach of clerks and bundle wrappers.

Especially desirable features of our invention are, the provision of automatic means for counteracting the inertia of the roll when the web of paper is pulled from said roll and the provision of a relatively simple and convenient spindle that

may be readily adjusted for the accommodation of rolls of paper of different lengths.

It will be understood that minor changes in the size, form and construction of the various parts of our improved roll paper holder may be made and substituted for those herein shown and described without departing from the spirit of our invention, the scope of which is set forth in the appended claims.

We claim as our invention:

1. In a roll paper holder, a frame, a roll paper carrying spindle journaled in said frame, ratchet wheels on said spindle and spring held detents mounted for pivotal and sliding movement on said frame and which detents engage said ratchet wheels.

2. In a roll paper holder, a frame, a roll paper carrying spindle journaled in said frame, ratchet wheels on said spindle, spring held detents mounted for pivotal and sliding movement on said frame, which detents engage the ratchet wheels on said spindle, levers fulcrumed on the frame and adapted when actuated to release said detents and a roller journaled on said levers, which roller is engaged by the web of paper as it passes from the roll carried by said spindle.

3. In a roll paper holder, a frame, a roll paper carrying spindle journaled in said frame, ratchet wheels on said spindle, spring held detents mounted for pivotal and sliding movement on said frame, which detents engage the ratchet wheels on said spindle, levers fulcrumed on the frame and adapted when actuated to release said detents, a roller journaled on said levers, which roller is engaged by the web of paper as it passes from the roll carried by said spindle and means for yieldingly resisting the swinging movement of said levers in one direction.

4. In a roll paper holder, a frame, bearings in the ends of said frame, a roll paper carrying spindle journaled in said bearings and rails mounted for sliding movement on the ends of said frame in front of the spindle bearings therein.

5. In a roll paper holder, a frame, a roll paper carrying mandrel journaled in said frame, a ratchet wheel on said mandrel, a spring held detent arranged for pivotal and sliding movement on the frame, which detent engages said ratchet wheels and means on said frame and adapted to be actuated by the web of paper as it is unwound from the roll of paper carried by the mandrel for disengaging said detent from said ratchet wheel.

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