March 3, 1942. N. B. CURRIER 2,274,977

ROLL PAPER CUTTER

Filed Aug. 2, 1940

Fig. 1

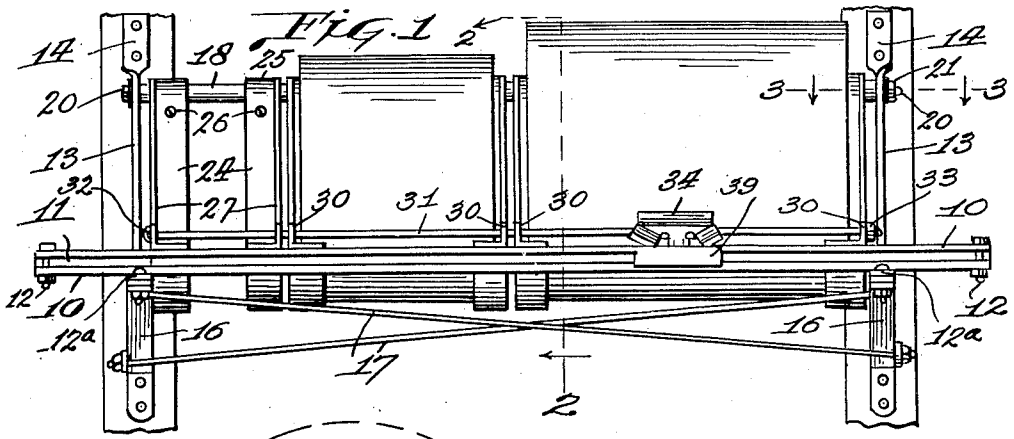



Fig. 2

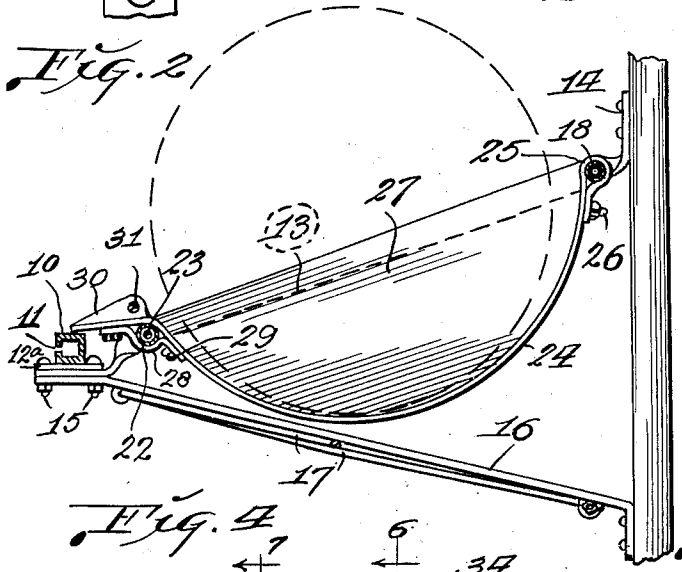



Fig. 3.

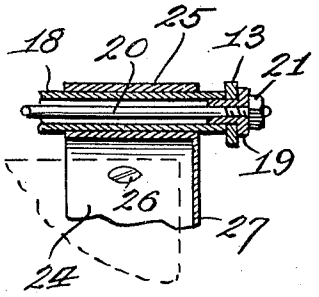



Fig. 4

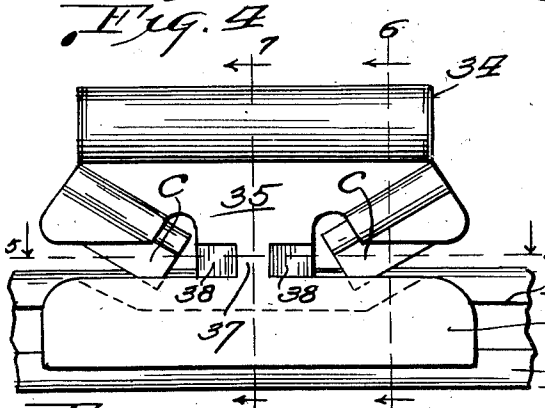



Fig. 5.

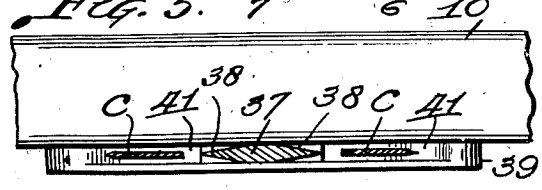



Fig. 6.

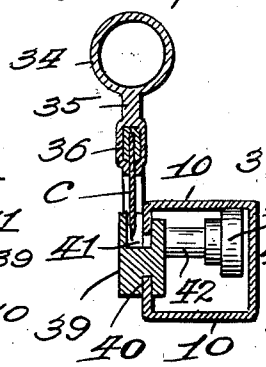
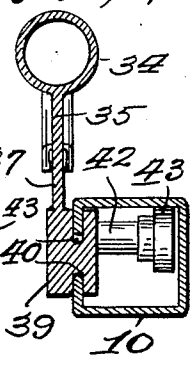



Fig. 7.




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Patented Mar. 3, 1942

2,274,977

# UNITED STATES PATENT OFFICE

2,274,977

## ROLL PAPER CUTTER

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Application August 2, 1940, Serial No. 349,913

4 Claims. (Cl. 242—55.4)

My invention relates generally to paper cutters and more particularly to a structure especially designed for conveniently supporting a plurality of rolls of paper such, for instance, as corrugated paper that is generally used as protective packing for merchandise.

The principal objects of my invention are, to generally improve upon and simplify the construction of the existing forms of roll paper cutters, to provide a cutter having a frame constructed and adapted to support a plurality of rolls of paper, further, to provide and mount a cutting blade or blades so as to enable sections of paper from the rolls of different lengths to be easily and conveniently cut off, further, to construct and arrange the paper roll supporting means so that the same may be adjusted in the frame of the apparatus so as to receive and support rolls of different lengths.

Further objects of my invention are, to provide simple and efficient means for guiding the webs of paper from the different rolls over the cutter bar and further, to provide a simple and efficient cutter that is arranged for sliding movement on the cutter bar and said cutter carrying a pair of oppositely arranged blades so as to enable the paper to be cut as the cutter is moved in either direction upon the cutter bar or rail.

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

Fig. 1 is a front elevational view of a paper cutter constructed in accordance with my invention.

Fig. 2 is a vertical cross section taken on the line 2—2 of Fig. 1.

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

Fig. 4 is a front elevational view of the sliding cutter.

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

Fig. 6 is a vertical section taken on the line 6—6 of Fig. 4.

Fig. 7 is a vertical section taken on the line 7—7 of Fig. 4.

Referring by numerals to the accompanying drawing which illustrates a preferred embodiment of my invention, 10 designates the cutter bar or rail upon which the blade-carrying member is mounted for sliding movement, said bar being formed of metal and in the shape of a tube that is substantially square in cross section and which is provided in its front wall with a longitudinally disposed slot 11. Passing through the end portions of the top and bottom walls of this tubular cutter bar are removable bolts or pins 12 that function as stops to prevent the sliding cutter from being accidentally withdrawn from the ends of the bar.

A short distance inwardly from the ends of the bar 10 metal plates 12a are secured to the under side of the bar by means of rivets or spot welding and these plates rest on top of the forward ends of rails 13, preferably metal straps that form the upper members of the ends of the cutter frame. These rails 13 extend rearwardly and upwardly from their forward ends and their rear ends are extended vertically upward so as to provide short vertically disposed plates 14 that are suitably secured to fixed uprights, for instance, posts or a wall.

Positioned beneath the forward ends of the rails 13 and secured thereto and to the plates 12a by means of bolts 15 or like fastening devices are the forward ends of downwardly and rearwardly projecting end rails 16, the rear lower ends of which are suitably secured to the uprights or wall to which the rear ends of the upper end rails 13 are secured.

To strengthen and impart rigidity to the frame comprising the cutter rail 10 and the end rails 13 and 16, crossed braces 17, preferably metal rods, have their ends suitably secured to the lower end rails 16 adjacent their forward and rear ends.

Arranged between the upper portions of the upper end rails 13 is a tube 18 and seated in the ends thereof are tubular washers 19.

Passing through tube 18 is a tie rod 20, the threaded ends of which pass through the tubular washers 19 and receive nuts 21, thus providing a rigid tie between the upper rear ends of the end rails 13 and the tube 18 providing a support for the adjustable cradles that carry the rolls of paper.

A tube 22 identical with tube 18 is arranged between the forward portions of the upper end rails 13 a short distance to the rear of cutter bar 10 and passing through said tube is a metal rod 23 identical with rod 20 and the ends of which are secured by tubular washers and nuts to the end rails 13.

The tube 22 just described provides a support for the front ends of the paper roll supporting cradles.

The rolls of paper used in the machine are sup-

ported by cradles between the tubes 18 and 22, each cradle comprising a pair of substantially semi-circular straps 24 of sheet metal, the upper rear ends of which straps are looped over tube 18 as designated by 25 and the end of the looped portion being secured to the body of the strap by means of a bolt or bolts 26. Secured to the right hand edge of the right hand strap of each pair and to the left hand edge of the left hand strap are the lower edges of vertically disposed segmental plates 27 which constitute end walls for the cradle to retain the rolls of paper against endwise movement.

The lower forward portions of the straps 24 overlie the tube 22 and underlying said tube beneath the overlying portions of said straps are short straps 28, the ends of which are secured to the straps 24 by bolts 29. The loops 25 on the upper rear ends of the straps 24 and the short straps 28 positioned beneath the lower front portions of straps 24 are arranged so as to maintain the ends of the cradle straps in sliding engagement with the tubes 18 and 22 and thus, the members of each pair of cradles may be adjusted toward and away from each other for the accommodation of rolls of paper of different widths.

The forward lower portion of each strap 24 extends forwardly and downwardly with its front end overlying the cutter bar 10 and formed integral with this forwardly projecting portion and on the same side with the segmental wall 27 is an upstanding flange 30 that serves as a guide for the web of paper as it passes from the roll supported by the cradles forwardly over the inclined forward end portions of the straps 24.

The rear portions of flanges 30 are perforated for the reception of a rod 31, the same passing through all of said flanges, and one end of said rod is provided with a head 32 and a nut 33 is mounted on the threaded other end of said rod.

This rod is spaced a slight distance apart from the underlying inclined forward portions of the straps 24 so as to hold the web of paper as it is unwound from the roll, down on the upper surfaces of the inclined forward portions of the straps 24 at a point immediately to the rear of the path of travel of the cutter on the rail 10.

The cutter that is arranged for sliding movement on rail 10 and which is illustrated in Figs. 4 to 7 inclusive comprises a horizontally disposed tubular handle 34 from which depends a longitudinally disposed plate 35, and formed in the ends of said depending plate are oppositely inclined slots 36 for the accommodation of the reinforced upper portions of cutters C. These cutters may be a standard form of safety razor blades readily obtainable in the open market. Thus, the sharp inclined lower edges of the cutting blades extend diagonally across the plane occupied by the top of the cutter bar 10 and the upper surfaces of the inclined forward end portions of the straps 24.

Depending from the intermediate portion of wall 25 between the cutting blades is a plate 37, the side portions of which are made wedge-shape in cross section as designated by 38 in order that said plate will pass freely through the slits that are cut across the webs of paper by the blades while the cutter is in use.

Carried by the lower end of plate 37 is a longitudinally disposed block 39 and formed in the upper and lower portions thereof are longitudinally disposed grooves 40 for the reception of the flanges or those portions of the front wall of the cutter bar 10 above and below the slot 11 therein.

Formed in the upper portion of block 39 adjacent the wedge-shaped side portions of plate 37 are longitudinally disposed recesses 41 for the accommodation of the lower corners of the cutting blades C.

Projecting rearwardly from the center of that portion of block 39 that is positioned within the cutter bar 10 is a stud 42, on the rear portion of which is mounted for rotation a roller 43, the periphery of which bears against the under side of the top wall of the cutter bar, thus providing a rolling bearing to maintain the cutter comprising the handle 34, plates 35 and 37 and block 39 in an upright position while traveling longitudinally of the cutter bar.

The rolls of paper are supported in the frame of the structure by the cradles comprising the curved strips of sheet metal 24 and the side walls 27, said cradles being arranged in pairs, one pair for each roll of paper. These cradles are readily adjustable lengthwise of the tubes 18 and 22 in order to accommodate rolls of paper of different widths.

The bight or web of paper from each roll passes forwardly from the lower portion of the roll over those portions of the strips 24 that overlie the cutter bar 10, beneath the rod 31 and between the upstanding guides 30.

When a section of paper from one of the rolls is to be cut off, the end of the paper is grasped by the operator and drawn forwardly until the desired amount of paper has been withdrawn and the operator now grasps handle 34 of the cutter and moves same lengthwise upon the cutter bar 10 and one of the cutting blades carried thereby will sever the withdrawn portion of the paper along a line immediately in front of the cutter bar 10. The end portions of the cutter bar 10 are extended sufficient distances past the ends of the roll supporting frame in order to receive and retain, in out-of-the-way positions the sliding cutter while the same is not in use.

Thus it will be seen that I have provided a roll paper cutter that is relatively simple in construction, inexpensive of manufacture, capable of conveniently supporting a plurality of rolls of paper of different widths and which cutter is very effective in performing the functions for which it is intended.

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

I claim as my invention:

1. In a roll paper cutter, a frame including a horizontally disposed front rail and a horizontally disposed rear rail, means adjustably mounted on said rails for supporting rolls of paper of different widths which adjustable roll supporting means includes pairs of arcuate members having their ends mounted on said front and rear rails and a segmental wall carried by each arcuate member, a cutter bar mounted on the frame in front of and substantially parallel with the front rail and a blade-carrying member mounted for sliding movement on said cutter bar.

2. A roll paper cutter as set forth in claim 1 and with means for guiding the webs of paper as they unwind from the rolls over said cutter bar.

3. A roll paper cutter comprising a frame including horizontally disposed parallel front and rear rails, a plurality of pairs of independently adjustable cradles carried by said front and rear rails, a horizontally disposed cutter bar supported on the frame in front of the front rail and means carrying a blade arranged for sliding movement on said cutter bar.

4. A roll paper cutter as set forth in claim 3 and with means for guiding the webs of paper from the rolls supported by said cradles forwardly across the top of said cutter bar.

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