Aug. 14, 1956 T. R. WYNN 2,758,738

WALL PAPER HANGING APPARATUS

Filed Nov. 12, 1953 2 Sheets-Sheet 1

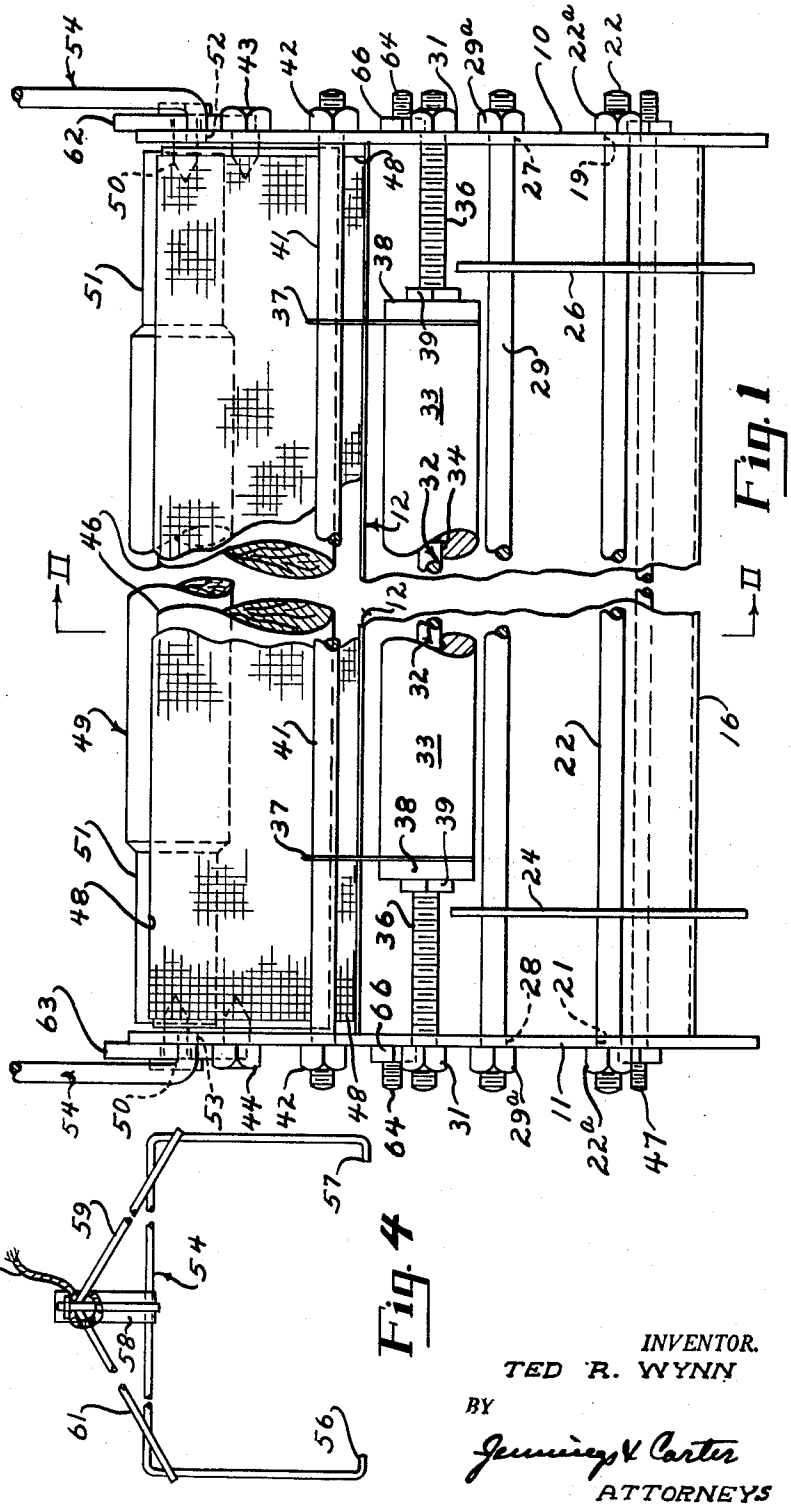


Fig. 1

Fig. 4

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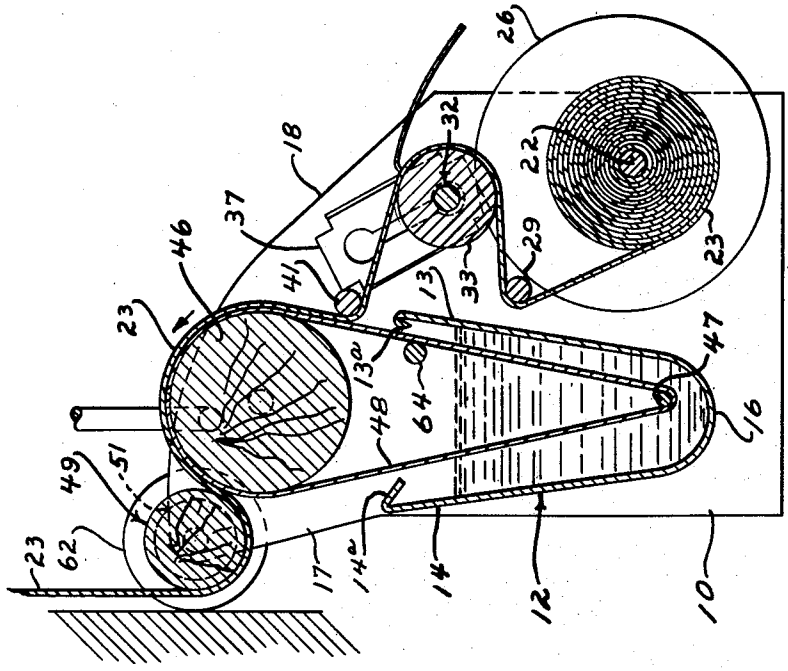


Fig. 2

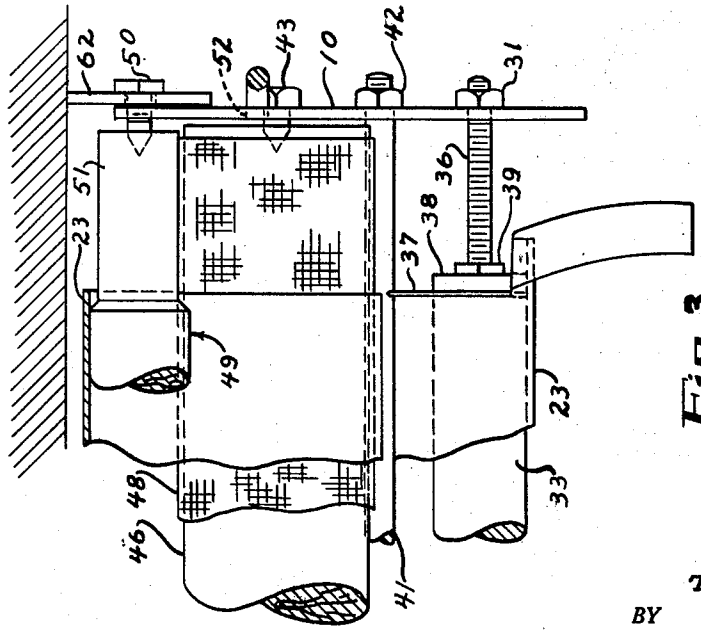


Fig. 3

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WALL PAPER HANGING APPARATUS

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Application November 12, 1953, Serial No. 391,465

12 Claims. (Cl. 216—6)

This invention relates to wall paper hanging apparatus and is an improvement over that described and claimed in my co-pending applications for patent, Serial No. 222,429 filed April 23, 1951, which matured into Patent No. 2,662,657 on December 15, 1953, and Serial No. 227,866 filed May 23, 1951, which matured into Patent No. 2,662,658 on December 15, 1953.

An object of my invention is to provide paper hanging apparatus embodying improved means for applying the paste to the paper whereby the paste is not pressed outwardly of the outer edges of the paper.

Another object of my invention is to provide paper hanging apparatus including improved means for steadying the same against the surface to be papered and at the same time preventing the apparatus from pressing the paper against the surface to be papered.

A further object of my invention is to provide paper hanging apparatus embodying a paste container, an endless mesh belt mounted for rotation with a portion thereof below the surface of the paste in the container and constructed to provide uniform tension without stretching or shrinking under various operating conditions.

A further object of my invention is to provide means for applying uniform quantities of paste to the paper as it passes through the apparatus.

A further object of my invention is to provide improved means for trimming the paper together with means for adjusting the apparatus whereby it will accommodate paper of different widths.

A still further object of my invention is to provide apparatus of the character designated having handle means adapting the apparatus for use in various operating positions, such as applying the paper to walls and ceilings of rooms or for use in applying paste to strips of paper.

Apparatus embodying features of my invention is illustrated in the accompanying drawings forming a part of this application, in which:

Fig. 1 is a front elevational view of the apparatus, partly broken away and in section;

Fig. 2 is a sectional view taken generally along the line II—II of Fig. 1;

Fig. 3 is a fragmentary plan view of one end of the apparatus; and

Fig. 4 is a plan view showing the handle member removed from the apparatus and drawn to a smaller scale.

Referring now to the drawings for a better understanding of my invention, I show a frame comprising side walls **10** and **11** spaced apart by a paste container **12**. The paste container is substantially U-shaped as viewed in cross section and comprises vertically extending walls **13** and **14** and a curved bottom portion **16**. The ends of the U-shaped paste container are secured to the side walls **10** and **11**, by any suitable means such as welding, to form a fluid tight joint therewith. The portion of the side walls **10** and **11** at the end of the paste container thus form the end walls for the paste container.

The rear edge of the side walls **10** and **11** extends upwardly and rearwardly to form a rearwardly projecting portion **17**. The upper edges of the side walls **10** and **11** slope forwardly and downwardly as at **18** to form a curved upper edge. Openings **19** and **21** are provided in the forward portion of the side walls **10** and **11** for receiving the ends of a rod **22** which is of a size to fit within and rotatably support a roll of wall paper indicated at **23**. The rod **22** is secured in place by means of nuts **22***a*. Slidably engaging the rod **22** adjacent opposite ends thereof are a pair of disc members **24** and **26** having openings therein for receiving the rods **22**. The openings are positioned off center, thus causing the discs to engage a portion of the apparatus and be held against rotation in a manner to be described hereinafter.

Openings **27** and **28** are provided in the side walls **10** and **11** upwardly and inwardly of the rod **22** for receiving the ends of a guide rod **29**, which is secured in place by means of nuts **29***a*. Extending between the side walls **10** and **11** and secured thereto by means of nuts **31** is a rod **32**. Slidably engaging the rod **32** is a cylindrical member **33** having a longitudinally extending opening **34** therethrough. A substantial portion of the rod **32** adjacent each end thereof is threaded as at **36**. Positioned against the ends of the cylindrical member **33** and surrounding the rod **32**, as shown in Fig. 2, are paper trimmers **37**. The trimmers are preferably in the form of razor blades. Threadedly engaging the rod **32** adjacent the trimmers **37** are disc-shaped spacer washers **38** which are locked in position by means of adjusting nuts **39**. By positioning the trimmers outwardly of the spacer washers **38**, the distance between the trimmers may be increased, thus permitting wider sheets of paper to be employed. While I show only two spacer washers **38**, I contemplate employing the required number of such washers to accommodate the cylindrical member to the width of the paper used. The spacer washers **38** are of the same diameter as the body of the cylindrical member **33**, thus providing a continuous smooth surface for engaging the paper.

Extending between the side walls **10** and **11** inwardly of the cylindrical member **33** is a rod **41** which is held in place by means of nuts **42**. The rods **29** and **41** are positioned so as to engage the paper and hold it in contact with the cylindrical member **33**, as shown in Fig. 2. The rod **41** is also in position for the upper end of the trimmer to come in contact therewith as it tends to rotate in a counter-clockwise direction. The trimmer thus acts as a thrust washer to prevent unscrewing of the spacer washers **38** and nuts **39**, thereby maintaining the trimmer in a fixed position.

Mounted for rotation between the side walls **10** and **11** above the paste container **12** and in suitable bearing members **43** and **44** is a roller **46**. Extending between the side walls **10** and **11** adjacent the bottom of the paste container **12** and within the confines thereof is a rod **47**. Passing over the roller **46** and the rod **47** is an endless mesh belt **48** formed of a material which holds the required amount of paste to apply an even coat to the paper and does not stretch or shrink under various operating conditions. In actual practice, I find that a plastic mesh belt formed of polyvinylidene chloride, sold under the trade name "Saran" is satisfactory in every respect. In order for the belt to hold the required amount of paste and to prevent telescoping of the belt over itself and to prevent it from rolling up against the end walls of the apparatus, the plastic mesh belt should have from 25 to 45 ends or lineal threads per inch and from 15 to 35 ticks per inch on both the face and back thereof.

Mounted for rotation between the rearwardly projecting portions **17** of the side walls **10** and **11** on suitable bearing pin members **50** is a roller **49**. The roller **49**

is cut away as at 51 adjacent the ends thereof to provide end portions of a diameter less than the central portion thereof. As shown in Fig. 3, the paper 23 projects outwardly of the enlarged central portion of the roller 49 and is spaced from the smaller diameter end portion thereof, thus preventing paste from being pressed outwardly of the outer edges of the paper and causing what is commonly called backlash. In order to accommodate the roller 49 to receive paper of different widths, the length of the enlarged diameter portion of the roller should be slightly less than the minimum width of the paper to be employed.

Suitable openings 52 and 53 are provided in the side walls 10 and 11 for receiving a handle member 54. As shown in Fig. 4, the handle member is substantially U-shaped and is provided with inwardly projecting members 56 and 57 for pivotally engaging the openings 52 and 53. The handle member 54 is provided with a detachable handle proper indicated at 58 which is secured to the base of the U-shaped member. Where it is desired to apply the paper to the ceiling of a room, a longer handle proper 58 is substituted for the short one shown in Fig. 4. Also, a flexible member, such as a cord 55, is attached to the handle member when it is desired to apply paper to a high wall. This is accomplished by lowering the apparatus to the floor thus permitting the operator to smooth the paper onto the wall as he moves down a ladder. Suitable brace members 59 and 61 connect the handle proper and the U-shaped member.

Mounted for rotation on the bearing pins 50 outwardly of the side walls 10 and 11 are a pair of rollers in the form of disc members 62 and 63. As shown in Fig. 3, the disc members 62 and 63 are larger in diameter than the enlarged diameter portion of the roller 49, thus spacing the roller 49 from the surface to be papered.

Extending between the side walls 10 and 11 in position to contact the inner surface of the mesh belt 48 and remove excess paste therefrom as it rotates, is a rod 64 which is secured in place by nuts 66. Also, the upper portion of the vertically extending walls 13 and 14 of the paste container extend inwardly and downwardly at substantially 45° angles to form flanges 13*a* and 14*a*. The flange 13*a* bears against the belt 48 holding it in contact with the rod 64 thus effecting a uniform coating of paste on the belt. The inwardly extending flanges 13*a* and 14*a* also prevent spillage of the paste.

From the foregoing description, the operation of my improved apparatus for hanging paper will be readily understood. To insert a roll of paper 23, the rod 22 is removed by removing one of the nuts 22*a*. One of the disc members 24 or 26 is then removed from the rod 22 and the roll of paper inserted thereon. The disc member is replaced on the rod and the rod is inserted in the apparatus and held in place by means of the nut 22*a*. The roll of paper 23 and the disc member 24 and 26 are moved longitudinally along the rod 22 until the paper is in proper alignment with the trimmers 37. The sheet of paper passes behind the guide rod 29, around the forward side of the cylindrical member 33 where it comes in contact with the trimmers 37, thence under the guide rod 41 where it contacts the belt 48 and passes over the roller 46 therewith. After leaving the roller 46 the paper, having a uniform film of paste thereon, passes around and under the roller 49 thence upwardly of the apparatus where it is pressed against the surface to be papered by any suitable means, such as a brush. As the paper passes over the roller 49 the outer edges thereof are out of contact with the roller due to the fact that they are spaced from the cut-away portions 51. Accordingly, the paste is not pressed outwardly toward the outer edges of the paper, thus preventing the paste from getting on the outer edge of the paper.

As the paper is removed from the rod 22, the eccentric disc members 24 and 26 contact the rod 29 thus limiting rotation thereof and locking the same in place. While I have shown two trimmers 37 for trimming the paper as it passes over the cylindrical member 33, it will be apparent that one trimmer may be employed where the wall paper is to be lapped. That is to say, the apparatus is adapted to trim one or both sides of the paper depending upon whether the edges of the paper are to lap or abut. The rods 29 and 41 assure that the paper is held firmly against the cylindrical member 33 as it passes thereover thus providing a smooth and even cut by the trimmer.

When it is desired to run a wider sheet of paper through the apparatus, the spacer washers 38 and the trimmers are removed. The spacer members 38 are then positioned between the trimmer and the cylindrical member 33 thus spacing the trimmers further apart. Additional spacer washers 38 are employed where it is desired to position the trimmers in position to cut wider sheets of paper.

As the plastic mesh belt passes over the roller 46 and the rod 47, the rod 64 and the flange 13*a* contact the inner and outer surface thereof so as to prevent the paste from building up thereon, thereby controlling the amount of paste which adheres to the belt.

The disc members 62 and 63 being larger in diameter than the roller 49 serve to steady the apparatus against the surface to be papered and prevent the roller 49 from pressing the paper against the surface in a manner to cause the paste to flow toward the outer edges thereof and cause backlash of paste.

When it is desired to apply the wall paper to a ceiling a longer handle member 58 is employed. The apparatus is then supported by a person who precedes a second person who smooths the paper onto the ceiling by any suitable means. Where the paper is to be applied to a high wall, the flexible member 55 is attached to the handle proper 58 and the apparatus is lowered to the floor, thus enabling the operator to use both hands in smoothing the paper onto the wall as he moves down a ladder.

My improved apparatus is also adapted for use as a pasting device and trimmer alone. This is particularly desirable when it is desired to apply paste to short strips of paper prior to placing them on the surface to be papered. Also, where a person does not have a second person to precede him in applying the paper to a ceiling, the paper may be trimmed and paste applied thereto before the paper is applied to the wall in the usual manner. Where the device is to be used for a trimming and pasting device only, the handle member 54 is clamped to a table or other suitable support. The paper is then pulled back over the top of the apparatus. The rollers 49 and 46 are so positioned as to prevent the paper being removed from coming in contact with the paste as it is pulled across the rollers.

From the foregoing it will be seen that I have devised an improved apparatus for hanging wall paper. By providing improved means for applying uniform coatings of paste to the paper together with means preventing the paste from flowing toward the outer edges thereof, the paper is delivered to the surface to be papered in clean condition. Also, by providing an improved adjustable trimmer for my apparatus, the paper is automatically applied to the surface to be papered at the required width for either abutting or lapping the same. Furthermore, by providing a mesh belt which applies the required amount of paste to the paper and does not shrink, stretch or wrinkle under various operating conditions or telescope upon itself or parts of the apparatus, my apparatus operates substantially trouble free without clogging or applying excessive or insufficient amounts of paste.

While I have shown my invention in but one form, it will be obvious to those skilled in the art that it is not so limited, but is susceptible of various changes and modifications without departing from the spirit thereof, and I desire, therefore, that only such limitations shall be placed thereupon as are specifically set forth in the appended claims.

What I claim is:

1. In paper hanging apparatus, laterally spaced side walls, a relatively deep paste container mounted between said side walls, a rotatable member mounted for rotation between said side walls with a portion thereof extending down into the paste container, means to pass a sheet of wall paper over and in contact with said rotatable member, and a roller mounted for rotation between said side walls in position to receive the paper after it has contacted said rotatable member, the end portions of said roller being smaller in diameter than the central portion thereof, whereby the edges of the wall paper overlie and are spaced from said end portions.

2. Apparatus as defined in claim 1 in which the central portion of the roller is slightly less in length than the minimum width of the paper to be employed, thus accommodating the roller for use with paper of various widths.

3. In paper hanging apparatus, laterally spaced side walls, a relatively deep paste container mounted between said side walls, a rotatable member mounted for rotation between said side walls with a portion there of extending down into the paste container, means to pass a sheet of wall paper over and in contact with said rotatable member, a roller mounted for rotation between said side walls in position to receive the paper after it has contacted said rotatable member, the end portions of said roller being smaller in diameter than the central portion thereof whereby the edges of the wall paper overlie and are spaced from said end portions, and disc members of a diameter larger than the diameter of said roller and mounted for rotation adjacent each end of said roller whereby they contact the surface to be papered and hold said roller spaced from said surface.

4. In paper hanging apparatus, laterally spaced side walls, a relatively deep paste container mounted between said side walls, a roller positioned above said paste container and rotatably mounted between said side walls, a paste absorbent mesh belt passing over said roller, belt engaging means adjacent the bottom of the paste container in position for the belt to pass slidably around the same, means to pass a sheet of wall paper over and in contact with said belt, and a second roller mounted for rotation between said side walls in position to receive the paper after it has contacted said belt, the end portions of said second roller being smaller in diameter than the central portion thereof whereby the edges of the paper overlie and are spaced from said end portions, and a substantially U-shaped handle member pivotally connected to the side walls adjacent the tops thereof.

5. Apparatus as defined in claim 4 in which a flexible member is attached to the handle member for lowering the apparatus alongside a high surface to be papered.

6. In paper hanging apparatus, laterally spaced side walls, a relatively deep paste container mounted between said side walls, a roller positioned above said paste container and rotatably mounted between said side walls, a polyvinylidene chloride mesh belt passing over said roller and having from 25 to 45 ends to the inch and from 15 to 35 ticks to the inch on both the face and back thereof, belt engaging means adjacent the bottom of the paste container in position for the belt to pass slidably around the same, means to pass a sheet of wall paper over and in contact with said belt, and a second roller mounted for rotation between said side walls in position to receive the paper after it has contacted said belt, the end portions of said second roller being smaller in diameter than the central portion thereof whereby the edges of the paper overlie and are spaced from said end portions.

7. In paper hanging apparatus, laterally spaced side walls, a relatively deep paste container mounted between said side walls and having substantially vertically extending walls, a roller positioned above said paste container and rotatably mounted between said side walls, a paste absorbent mesh belt passing over said roller, belt engaging means adjacent the bottom of the paste container in position for the belt to pass slidably around the same, an elongated member mounted between said side walls in position to contact the inner surface of said belt to remove excess paste therefrom whereby a uniform coating of paste adheres to the surface thereof, means to pass a sheet of wall paper over and in contact with said belt, and a second roller mounted for rotation between said side walls in position to receive the paper after it has contacted said belt, the end portions of said second roller being smaller in diameter than the central portion thereof whereby the edges of the paper overlie and are spaced from said end portions.

8. Apparatus as defined in claim 7 in which the upper end of the vertically extending wall adjacent the elongated member is turned inward, whereby it bears against the mesh belt and holds the same in contact with said elongated member.

9. In paper hanging apparatus, laterally spaced side walls, a relatively deep paste container mounted between said side walls, a rotatable member mounted for rotation between said side walls with a portion thereof extending down into the paste container, an elongated member extending between said side walls and having threaded end portions, a cylindrical member mounted on said elongated member there being an opening through said cylindrical member for receiving said elongated member, a paper trimmer adjacent at least one end of said cylindrical member, means in threaded engagement with said elongated member disposed to move into contact with said trimmer and hold it in a fixed position, means to pass a sheet of wall paper over and in contact with said cylindrical member and said rotatable member a roller mounted for rotation between said side walls in position to receive the paper after it has contacted said belt, the end portions of said roller being smaller in diameter than the central portion thereof whereby the edges of the paper overlie and are spaced from said end portions.

10. Apparatus as defined in claim 9 in which the means in threaded engagement with the elongated member and holding the trimmer in a fixed position comprises a washer of a diameter substantially the same as that of the cylindrical member, and a nut positioned outwardly of said washer.

11. Apparatus as defined in claim 9 in which at least one washer of a diameter substantially the same as that of the cylindrical member is positioned between the trimmer and said cylindrical member for adjusting the position of the trimmer.

12. In paper hanging apparatus, laterally spaced side walls, a relatively deep paste container mounted between said side walls, a rotatable member mounted for rotation between said side walls with a portion thereof extending down into the paste container, an elongated member mounted between said side walls and disposed to receive a roll of wall paper with a sliding fit, disc-shaped members slidably engaging said elongated member adjacent the ends thereof, there being openings in said disc-shaped members off-set relative to the centers thereof whereby upon rotation of the disc-shaped members they engage a portion of the apparatus to limit rotation thereof, means passing a sheet of wall paper from said elongated member over and into contact with said rotatable member, and a roller mounted for rotation between said side walls in position to receive the paper after it has contacted said rotatable member, the end portions of said roller being smaller in diameter than the central portion thereof whereby the edges of the paper overlie and are spaced from said end portions.

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